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THESIS

DEFENCE PROCUREMENT IN THE UNITED KINGDOM:
WHICH WAY WILL IT GO?

by

Kaye Michelle Emerson

DECEMBER 1990

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Defence Procurement in the United Kingdom
Which Way Will it Go?

by

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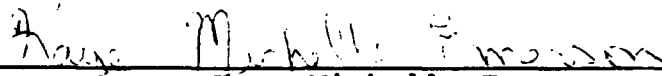
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ABSTRACT

Three case studies were examined (Westland, NATO Frigate Replacement-90, and European Fighter Aircraft) which involved defence procurement decision-making from 1985 to the present by the government of the United Kingdom. These cases involved three different outcomes in terms of national/multinational production: 1) national, 2) UK/US, 3) UK/Europe and 4) UK/Europe and US. Each case examined the technical, economic, socio-political and military variables in an attempt to explain and generalize about the future of defence procurement in the United Kingdom. The case studies resulted in the findings that technological, economic and political considerations were of utmost importance in determining whether the United Kingdom chose to produce a weapon system with the United States and/or Europe.



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INTRODUCTION

A. THE MAJOR RESEARCH QUESTION

Changes underway in Europe since the fall of the Berlin Wall in November 1989 and the movement toward a single integrated market planned for 1992, are having an impact on defence¹ budgets. As the perceived threats diminish so, too, does defence procurement. In particular, the United States is concerned with the transatlantic economic implications of successful European armaments cooperation. Once largely an American-dominated market, Europe is becoming increasingly hostile to U.S. defence goods.

Of the European countries that have special significance to the United States, the United Kingdom tops the list. Consequently, determining how the United Kingdom is responding to these new trends, especially regarding joint projects with the United States, is of increasing importance to defence planners.

In this thesis, I examine major weapons procurement since 1980 in which the United Kingdom had the following options: 1) national, 2) joint UK/US, 3) joint UK/European and 4) joint UK/Europe and US. For each case an attempt is made to

¹ In this document, British spelling will be used where applicable, specifically words like defence and programme.

determine what factor(s) play(ed) a role in the government's ultimate decision. By examining three case studies in which different outcomes prevailed, generalizations will be made as to the future direction of British defence procurement.

B. DEFENCE PRODUCTION IN THE UNITED KINGDOM²

The United Kingdom is one of Europe's most defence-dependent societies in industrial terms. The goods required by the military for transport, information collection and transmission, for protection and destruction, are so varied and dependent on expertise in so many technologies that "there is more or less no industrial sector which does not or could not contribute to the Defense Industrial Base."³ Of Europe's top 100 defence companies, British Aerospace PLC ranks first with a turnover in excess of fifty-seven thousand million dollars in 1988. GEC-Marconi ranks sixth and rounding out the top ten is Rolls-Royce PLC in ninth place.⁴ (Westland plc,

² For more information concerning Britain's defence industry see the following: A. Trevor Taylor and Keith Hayward, *The UK Defence Industrial Base: Developments and Future Policy Options*, London, England: Brassey's, 1989. B. William Walker and Philip Gummet, "Britain and the European armaments market," *International Affairs*, Vol. 65 No. 3, Summer 1989, pp.419-442. C. Andrew Moravcsik, "The European armaments industry at the crossroads," *Survival*, January/February 1990, pp.65-85.

³ Taylor and Hayward, p.8.

⁴ Ian Curtis and Barbara Weedon, "Europe's Top 100 Defense Companies," *Defense & Foreign Affairs*, January/February 1990, p. 18.

which will be the focus of the first case study, places twenty-eighth.)

Defence accounts for eight to ten percent of the United Kingdom's total manufacturing output. The United Kingdom's indigenous equipment expenditure including collaborative ventures is approximately 90%, compared to 95% for France and 98% for the United States.⁵

Arms exportation is a big business in the United Kingdom. Between 1970 and 1979, the UK ranked fourth in the world as an exporter of major weapons. Table 1.1 shows the average percentage of defence production exported between 1984 and 1989.

TABLE 1.1: DEFENCE PRODUCTION: AVERAGE % EXPORTED 1984-1989

France	45%
Federal Republic of Germany	10%
United Kingdom	33%
United States	10%

(Source: Unpublished UK Ministry of Defence estimates.)

Exports currently account for between one third and one half of defence production.⁶

⁵ Martyn Bittleston, "Co-operation or Competition? Defence Procurement Options for the 1990s," Adelphi Papers 250, IISS, Spring 1990, p. 10.

⁶ Trevor Taylor, "Wither Europe's Defense Industries," unpublished paper, p. 14.

The United Kingdom also ranks high in the world in terms of research and development. As a percent of public research and development devoted to defence, the UK's percentage is rather high compared to other European states, with 55.6% in 1980.⁷ Only France comes close with an average of 30 per cent of public R&D devoted to defence. In addition, the US, USSR, and UK between them employ 90% to 95% of all engineers and scientists engaged in military research and development.⁸

Although the UK has forces deployed throughout the world, "its contribution to NATO accounts for more than 95% of its defence budget."⁹ NATO allies account for the "single largest share of the world defence industrial output."¹⁰ In 1987, the UK's defence expenditure ranked third behind the United States and Greece as a percentage of Gross Domestic Product among NATO members at 4.9% or \$29.5 billion.¹¹

⁷ Nicole Ball and Milton Leitenberg (eds.), *The Structure of the defense industry*, Great Britain: St. Martin's Press, Inc., 1983, p. 345.

⁸ "Future Challenges to the European Defence Industrial Base," paper prepared by British Aerospace PLC for CSIS Conference, Brussels, Belgium, March 1989, p. 3.

⁹ Eurogroup, "Western Defense: The European Role in NATO," May 1988, p. 32.

¹⁰ *Ibid.*

¹¹ Eurogroup, p. 32.

When compared to her European allies and her ally across the Atlantic, the United Kingdom stacks up as a major player in the business of defence.

A survey of the literature suggests that despite interest in collaboration, "nations still act independently to procure the majority of their equipment."¹² However, spiralling unit costs, technological sophistication and periods of detente provide evidence that procurement policies are being modified.

Statistics in early 1990 show that the United Kingdom has just four out of thirty-nine major projects that are the subject of intergovernment collaborative agreements.¹³ Seventy-five percent of the UK's defence equipment expenditure is with its national industry. Budgeting pressures are increasing. Consequently, the "UK is pursuing a policy of competition.. to secure value for money..¹⁴

The United Kingdom's national procurement policy has never been clear. Instead, one must deduce the policy from procurement practice, "which is not consistent but appears to lean towards buying from home suppliers, even at some additional cost..¹⁵ Why is this the case? One answer may be

¹² Bittleston, p. 4.

¹³ Statement on the Defence Estimates 1988, Vol. 2 CMD 344-11 (London: Her Majesty's Stationery Office, 1988), p. 17.

¹⁴ Bittleston, p. 36.

¹⁵ *Ibid.* p. 46.

tradition. There are no guiding principles, merely a widely shared wish to buy nationally if at all possible.

Economic necessity is driving the European nations to collaborate. But the question remains--what percentage of the United Kingdom's collaboration will be European as opposed to transatlantic? The United Kingdom fears the loss of industrial access to US technology if it should become too enthusiastic about European collaboration. How the United Kingdom makes this choice in the future is the major proposition examined in this thesis.

Existing theory seems to imply that the United Kingdom, given the choice between maintaining a national industrial base or collaborating on major defence procurement projects, will only maintain those segments of the defence industrial base (engineering and electronics) in which she has an existing competitive edge, and will collaborate with the United States or Europe depending on which option provides the most value for the money.

This thesis will test this theory by identifying various conditions and variables that help to explain each decision, with an eye to generalizing about future options.

C. RESEARCH DESIGN

This thesis utilizes the Focused Comparison approach which has three phases: 1) design, 2) case studies and 3) assessing the results of the case studies in order to elaborate the

initial theory stated in phase 1. The research design generally follows that put forth by Alexander George in "Case Studies and Theory Development: The Method of Structured, Focused Comparison."¹⁶

In each case, a set of general questions is asked which first describe the outcome or dependent variables, "what" each case is about. The answers to another set of questions, the independent variables, provide the answers that will aid in explaining (telling us "why") the British government made its decision with respect to defence procurement.

Among the general questions to be asked are:

Q1) Who participated in the project?

Q2) What impact did the project have on the defence budget in terms of magnitude?

Q3) What type and level of technology was utilized?

Q4) Which option was chosen and what were the specific arrangements: 1)UK, 2)UK/US , 3)UK/EUROPE or 4) UK/Europe and US?

1. Cases

Three cases are chosen, each of which have a puzzle to be solved. The outcome variable to be explained in the Westland Case (Case #1) is why the government of the United

¹⁶ Alexander L. George, "Case Studies and Theory Development: The Method of Structured, Focused Comparison," in Paul G. Lavren (ed.) *Diplomacy: New Approaches in History, Theory and Policy*, New York: The Free Press, 1979, pp. 43-68.

Kingdom chose to help the helicopter manufacturer escape bankruptcy by opting for a UK/US solution instead of a UK/Europe solution featuring a European consortium. In this case, the UK could not proceed without outside assistance.

In Case #2, the NATO Frigate Replacement (NFR-90) project, the outcome variable to be explained is why, having chosen to collaborate with European nations and the United States, did the United Kingdom back out of the project which led to its cancellation in January 1990, and revert to a national procurement solution?

The third case (Case #3) to be studied involves the European Fighter Aircraft (EFA). As its name implies, the United Kingdom has chosen this collaborative project with three of her European allies. Namely, West Germany, Italy, and Spain. This case is ongoing. There is talk that, as a result of unification, West Germany may pull out of the project. If this happens, the United Kingdom will face a decision to cancel or proceed--with or without the remaining partners. It has been pointed out that the United Kingdom has the technology but not the money to "go it alone,"¹⁷ but the project is of such critical importance to the future of the United Kingdom's aerospace industry that the money may be found. Based on the findings of the first two cases, a forecast is made as to the outcome of the third case, the EFA.

¹⁷ *Ibid.*, p. 41.

The analysis then turns to the examination of four explanatory factors--technological, economical, socio-political and military.

2. Technological factors

Q5 Was (Is) the United Kingdom's defence industry self-sufficient in terms of technology needed?

This variable is used to determine whether the United Kingdom would be able to follow through on a project without the need for a partner(s) who could supply the necessary technology.

Q6 Was (Is) arms exportation of said equipment a factor in partners chosen/not chosen?

This considers if the United Kingdom made or would make their decision based on the ability to export at a later date.

Q7 Did (Does) technology transfer enhance/detract from US/European collaborative projects?

This variable considers whether protection policies/trade barriers have been (or will be) a factor.

3. Economic Factors

Q8 Was (Is) the United Kingdom's industrial capability threatened if the project was (is) not completed?

This variable looks at the extent to which the project could be cancelled without a serious impact on the finances of the company(ies) involved.

Q9 Was (Is) a decision made within a specified time-frame to avoid an economic downturn?

This considers whether or not economic pressure forced a decision in order to avert or forestall bankruptcy.

4. Socio-political factors

Q10 Was (Is) the United Kingdom's defence industry guided by government guidelines?

This factor will examine to what extent government policy is firmly stated and/or followed. One policy, Value for Money, was established in 1982. This program, while committing the government to nothing specific, was designed to create "extensive and effective competition in the supply of defence equipment."¹⁸ By making the Value for Money "the guiding principle, it was hoped that military goals could still be achieved, but within a tighter defence budget."¹⁹ Government guidelines play a role in Britain's defence industry. Still not content with the progress of the Value for Money program, Michael Heseltine hired Peter Levene in 1985 as the Chief of Defence Procurement for the United Kingdom in an attempt to commercialize the United Kingdom's defence industry.

¹⁸ House of Commons Defence Committee, "The Procurement of Major Defence Equipment," Fifth Report, CMD 431, June 1988, para. 91.

¹⁹ William Walker and Philip Gummet, "Britain and the European armaments market," *International Affairs*, Vol. 65 No. 3, Summer 1989, p. 421.

The Levene Reforms rest on three principles: 1) competitive tendering, 2) fixed-price contracts and 3) budgetary control, i.e.--payment dependent on progress.²⁰ The reforms, by and large, did not substantially change the structure of the defence industry.

Q11 Did (Does) the Prime Minister become involved?

This variable will examine Margaret Thatcher's personal role in the decision to determine to what extent or why she would be willing to intervene.

Q12 Was (Is) detente an issue?

This question will examine the government's perception of the threat to Europe and how it affected/affects defence procurement.

Q13 How important was NATO/US relations in determining the outcome?

This variable will look at political pressures from NATO and the United States as a determining factor.

5. Military factors

Q14 What was (is) the equipment to be used for?

This factor will evaluate the importance of the mission of the equipment to see if it was (is): a) vital for securing British defence or b) necessary for replacing existing stock.

²⁰

Walker and Gummet, p. 421.

Q15 Did (Does) military strategy(keeping control of essential defence requirements) preclude collaboration with the US or Europe?

This variable is intended to determine to what extent the equipment was (is) exclusively for use in defending the United Kingdom and therefore national procurement was deemed the only option.

These variables were selected exclusively for this thesis and include economic, political, military and industrial factors.

6. Control variables

The cases to be studied have several variables that remain(ed) constant throughout the time frame involved (1985-1991), and therefore played a minimal role in each outcome.

1) The United Kingdom had(s) a Conservative Government under Prime Minister Margaret Thatcher. As the head of her government, consistency in terms of economic and defence policies, to name just a few, should have minimized much uncertainty regarding her political inclinations.

2) United Kingdom's membership in the European Economic Community(EEC)--as a member in good standing since the 1970s the United Kingdom did not have to consider the impact of any defence decisions regarding the Community.

3) 1985 Official EEC announcement to develop a single integrated market by 1992. It is well known that the UK has

been accused of being less than enthusiastic about the prospects for 1992. However for the purposes of this analysis, all signatories of the 1992 agreement are assumed to possess equal enthusiasm for its success.

4) UK procurement policy known as Value for Money has been(is) in effect. This policy sets up general guidelines that the Ministry of Defence tries to follow in all cases, considering short and long term impacts on defence procurement decisions taken. Prior to the Value for Money program, the MoD's relationship with Industry was characterized by loose contractual specifications, work placed with preferred suppliers, and payments made to suppliers under cost-plus arrangements.

5) The Soviet Union was(is) ruled by President M. Gorbachev. Gorbachev's foreign policy and vision of a "common European home" has meant his desire to strengthen ties with his neighbors, thereby alleviating some political tensions.

6) The United States was(is) governed by a Republican. As in the case with Thatcher's government, consistency in politics and a desire to protect the military-industrial complex as a part of US national strategy contributed to minimal fluctuations in defence policy.

7) The US/UK 'special relationship'. Winston Churchill first coined this phrase in 1945 although "Britain and America have never ceased to play important roles in each other's

history."²¹ Anglo-American diplomatic relations span more than two hundred years. Periods of closeness in the special relationship have also been times of occasional mutual exasperation, particularly when dealing with nuclear issues. The United Kingdom has gained valuable technology from the United States that might not otherwise have been the case, but this does not mean she always gets what she wants, when she wants it. The relationship is not a guarantee of special favors and therefore of minimal importance to the analysis.

What makes the three cases chosen appropriate cases for doing a focused comparison of defence procurement in the United Kingdom? Clearly, each case represents equipment to be used by the military. The Westland Case dealt with helicopter procurement. The NATO Frigate project dealt with naval ship procurement. The European Fighter Aircraft deals with fighter plane procurement, all of which were intended for use by UK forces (Army/Air Force, Navy, and Air Force respectively.)

The Westland Affair was chosen because its publicity and attention raised questions within the government of the United Kingdom regarding governmental intervention in defence procurement that are still of concern today. Additionally, Westland involves the manufacture of helicopters by the only company within the United Kingdom capable of such.

²¹ Henry A. Kissinger, "Reflections on a Partnership: British and American Attitudes to Postwar Foreign Policy," *International Affairs*, (Autumn 1982), p. 571.

The NATO Frigate Replacement (NFR-90) project was chosen as a case study that involved multiple nations and defence weapons systems that was touted as NATO's (North Atlantic Treaty Organization) largest successful collaborative naval effort. Why, then, did it fail? The answer to this key question could provide vital clues for the EFA and future NATO collaborative programs.

The final case chosen, the European Fighter Aircraft (EFA), is intriguing. The project initially involved France, England, West Germany, Italy and Spain. After France withdrew, analysts wondered how long or if the other nations could continue. The United Kingdom's aerospace industry is in critical need of succeeding with the EFA in order to prove that the Europeans can compete with the Americans when it comes to aerospace. In this case, there is also interest in finding out how much, if any, technology will be supplied by US contractors.

The European Fighter Aircraft has a chance of becoming the most costly joint European project ever. The success or failure of this project has more than a little interest to US defence planners and industry since it could portend things to come.

The next chapter turns to Case #1: The Westland Affair. By answering fifteen specific questions I will unlock the key to the first puzzle--Why the government of the United

Kingdom chose to help the helicopter manufacturer escape bankruptcy with a US solution.

II. THE WESTLAND AFFAIR

"Westland shareholders yesterday [12 February 1986] approved by more than two to one the controversial rescue package agreed by the board with Sikorsky of the United States and Fiat...."

"The decision should end the bitter conflict over Westland's future which has rocked the Government over the past two months."²²

So ended what became known as the "Westland Affair", a decision by the United Kingdom to build its next helicopter with the United States and not Europe.

In the fall of 1985, Westland plc, the United Kingdom's only helicopter manufacturer, faced bankruptcy; Westland's financial status was bleak and had been for years. The government of the United Kingdom was aware of this, but within the halls of the Ministry of Defence, opinions differed about what, if any actions to take to rescue the company. Westland was, as far as helicopters go, a small player in a bigger game.

By the time a decision was reached the following February, two of Prime Minister Thatcher's top ministers had resigned. The political drama of that winter presented a conflict

²² Patience Wheatcroft, "Strong Westland majority backs Sikorsky," *The London Times*, 13 February 1986, p. 1 Col. 1.

between free market and interventionist industrial policies that was not resolved by the close of the case. In fact, the question remains: "were the United Kingdom's best interests ever a serious consideration in the Westland Affair?"²³

Whether governments should steer industrial policy and to what extent was not resolved in the case of Westland. As the tensions mounted between interventionists who wanted to preserve the United Kingdom's defence industry through a European dimension, and the free market proponents who desired a competitive procurement policy, one point was clear: in public, "the Government took the view that the defence interests at stake were not sufficient to justify a public sector rescue operation,"²⁴ but in private, Prime Minister Thatcher and her Secretary of State for Trade and Industry Leon Brittan, took measures to ensure Westland's survival was achieved by the U.S. Sikorsky-Fiat rescue bid.

In the questions that follow, the case and its outcome are described.

Q1 Who participated in the project?

The countries and their defence industries involved in the Westland rescue bid included two opposing consortiums--one

²³ Donald E. Fink, "The Westland Affair," *Aviation Week and Space Technology*, 24 February 1986, p. 13.

²⁴ House of Commons Defence Committee Fourth Report Session 1985-86, "Westland plc: The Government's Decision-Making," CMD 519, para. 24.

consisting of European companies and the other made up of one American firm tied with an Italian firm.²⁵

The European consortium which was put together by the efforts of Michael Heseltine, the United Kingdom's Secretary of State for Defence, consisted of Aerospatiale of France, MBB of Germany and Agusta of Italy-later joined by British Aerospace and General Electric of the United Kingdom.²⁶

An alternate rescue bid was first offered by the American United Technologies Corporation (UTC), the parent company of Sikorsky Aircraft. [Westland had been building Sikorsky helicopters under license since the mid 1940s.] UTC's rescue bid was later joined by Fiat of Italy in a deal that has "always been one of the murkiest areas of the Westland Affair."²⁷

Q2 What impact did the project have on the defence budget in terms of its magnitude?

Westland, as the United Kingdom's only helicopter manufacturer was considered a major defence contractor to the

²⁵ One other rescue bid was proposed prior to Sikorsky's initial proposal by British millionaire Alan Brislow. He withdrew his bid in June 1985. For further detail see Magnus Linklater and David Leigh, *Not With Honour The inside story of the Westland Scandal*, (London: Sphere Books Ltd, 1986), p. 40.

²⁶ Lawrence Freedman, "The case of Westland and the bias to Europe," *International Affairs*, Vol. 63 No. 1, Winter 1986-87, p. 1.

²⁷ Linklater and Leigh, p. 77.

British government.²⁸ In 1977, Westland ranked eighth out of twenty in the category of largest arms producers in the United Kingdom.²⁹

By late 1985, however, Westland's debts were higher than the market value of the shareholders' stock and the firm had a complete lack of orders for the period 1986-1990.³⁰

After the rescue bid was accepted in February 1986, Westland received an order from the Ministry of Defence for seven Sea King helicopters at a cost of twenty-five million pounds.³¹ When this figure is compared with the 1986-87 defence procurement budget in Table 2.1, it is evident that the Westland helicopter company had a minimal role in the nation's 2,673 million air equipment budget despite its position as the only helicopter manufacturer in the United Kingdom.

²⁸ Ball and Leitenberg, p. 350.

²⁹ *Ibid.*, p. 352.

³⁰ Pauline Creasey, "European Defence Firms in Cooperation Agreements," in Pauline Creasey & Simon May (eds.), *The European Armaments Market and Procurement Cooperation* (London: The Macmillan Press, LTD, 1988), p. 127.

³¹ "Westland announces 25m Sea King order from MoD," *Jane's Defence Weekly*, 6 September 1986, p. 444.

TABLE 2.1: DIVISION OF UK PROCUREMENT PROGRAMME 1986-87

Category	Development (%)		Production (%)
Air Equipment	690 Million	8%	2,673 M 30%
General Support	470 Million	5%	519 M 6%
Research	398 Million	4%	
Sea Equipment	476 Million	5%	2,110 M 23%
Land Equipment	303 Million	3%	1,409 M 16%

(Prices reflect British currency in millions of pounds.
Source: Mark Daly, "British defence spending starts to decline," Jane's Defence Weekly, 17 May 1986, p. 866.)

Q3 What type and level of technology was utilized?

Westland's record as designer and innovator of helicopters was not impressive--its more successful products had been built under licence from Sikorsky, the helicopter subsidiary of United Technologies Corporation..³²

The House of Commons Defence Committee held an inquiry into the Westland Affair in an attempt to determine the ramifications to the United Kingdom's helicopter industry if Westland went into receivership. During this time, key individuals were questioned, among them, Sikorsky's Vice President.

Mr. Paul, Senior Vice President for Defense and Space Systems, UTC, explained to the House of Commons Defence Committee (HCDC) that Westland must have a product in order to

³² Creasey, p. 127.

survive and therefore had "chosen to secure a Black Hawk license."³³ [Black Hawk is a Sikorsky designed helicopter.]

Sir John Cuckney, Westland's chairman, told the HCDC that manufacturing Black Hawks meant work in advance design and tremendous opportunities for the engineering department working with composite materials. His people would get "a lot of the specific design work" on Sikorsky's LX helicopter.³⁴ In addition to the Black Hawk, Westland would gain "non-helicopter business to help [their] technology and aerospace divisions."³⁵ Cuckney concluded his appearance by explaining that the UTC-Fiat rescue meant that sixty per cent of the Black Hawk would be British built.³⁶ Two-thirds of the Sikorsky-Fiat offer involved engineering work "of a quality that would keep Westland's design and engineering teams intact."³⁷

The European consortium offer involved work on three helicopters--the EH101, the NH-90, and the proposed PAH2/A-129 merger(PAH2 and A-129 were separate battlefield helicopters

³³ Humphrey Atkins, "Defence Implications of the future of Westland plc: minutes of evidence and appendices: Dec. 18, 1985-Apr. 16, 1986, House of Commons Defence Committee 169, p. 272.

³⁴ *Ibid.*, p. 80.

³⁵ *Ibid.*, p. 77.

³⁶ *Ibid.*, p. 245.

³⁷ Creasey, p. 138.

that were being considered for a merger), with guaranteed sales over the next ten to fifteen years. While this offer appeared better for Westland on the surface because it involved three helicopters (as opposed to the offer of Black Hawk), the order depended on savings from a common European procurement policy proposed by the British MoD. Westland sought clarification of whether the work was truly guaranteed.³⁸ The European consortium did not offer any new projects.

The consortium argued that "the UTC-Fiat proposal was a high-risk option, putting the benefits of European cooperation at risk in return for the uncertain promise of exports of Black Hawk."³⁹

Westland weighed the bids and accepted the Sikorsky-Fiat offer. Consequently, "following agreement of full partnership with United Technologies, Westland received US State Department approval to produce a version of the Sikorsky Black Hawk designated WS70."⁴⁰

Q4 Which option was chosen and what were the specific arrangements: 1)UK, 2)UK/US, 3)UK/Europe or 4)UK/Europe and US?

"The cloudiness (uncertainty about 'guaranteed work') of the bid by the European consortium and the doubt about the

³⁸ Creasey, pp. 137-138.

³⁹ Freedman, p. 13.

⁴⁰ *Jane's All The World's Aircraft 1987-1988*, (London: Jane's Publishing Company, 1988), p. 187.

durability of the defence ministers' long-term intentions to seek a common procurement policy, led to acceptance of the revised Sikorsky-Fiat proposals at the second meeting of Westland shareholders [on 12 February 1986.]⁴¹

The financial proposals of the two bidders were similar as Table 2.2 shows.

TABLE 2.2: THE FINANCIAL PROPOSALS OF THE TWO BIDDERS

Financial details (millions of pounds)	Sikorsky	Europe
New share capital subscribed by potential partners	40.8	36.8
New share capital subscribed by existing shareholders	35.5	13
Conversion of bank debt into preference share capital, net of sales	23	23
Total package	80	75

(Prices based on 28 January 1986 and refer to Sikorsky's revised offer. Source: Morgan Grenfell & Company (adviser to UTC) and Lloyds Merchant Bank.)⁴²

The commercial packages, to be negotiated in detail after legal acceptance, were quite different and Westland's future rested on them.

⁴¹ Creasey. p. 139. [Sikorsky revised its December proposal as a result of the European bid. The revisions included more capital injection and labor.]

⁴² Creasey, p. 136.

Westland needed a saleable product to keep it operating through the 1990s. Sikorsky provided the Black Hawk license, proposing sales of 150 helicopters to third-country markets.⁴³

The exact terms of the deal were not disclosed. According to Sir Cuckney, who asked the HCDC if he could answer their questions regarding this matter in private, the arrangement with Sikorsky was "commercially sensitive and price sensitive."⁴⁴

The Westland Board set aside three million pounds for a WS70 demonstrator, to be assembled from a Sikorsky kit. The demonstrator flew for the first time on 1 April 1987.⁴⁵

In the fall of 1986, Sikorsky's President Mr. Zincone said the process was being sorted out regarding Westland's Black Hawk sales--some areas would be dealt solely by Westland and others would be shared between the partners.⁴⁶

In the same interview, Mr. Zincone described future re-engining of the Black Hawk with the "Rolls-Royce RTM 322 [making it] a super hard-hitting combination and..far more of a UK product."⁴⁷

⁴³ *Ibid.*, p. 138.

⁴⁴ Atkins, "Defence Implications..," p. 239.

⁴⁵ *Jane's*

⁴⁶ "Westland announces..," p. 444.

⁴⁷ *Ibid.*

Table 2.3 shows the competing bids in terms of capital injection and short/long term prospects. Clearly, the Black Hawk weighed heavily in Westland's desire for the Sikorsky bid.

TABLE 2.3: OPPOSING RESCUE BIDS

	Sikorsky	Europe
Capital injection:	74 Million	73.1M
Short term/Man hours:	2 Million over 5yrs	1.8 Mil over 3
Long term/Projects:	Develop and manufacture Black Hawk	Nothing new

(Source: Lawrence Freedman, "The case of Westland and the Bias to Europe," International Affairs, Vol. 63 No.1, Winter 1986-87, p.13.)

Having now described what the Westland Affair entailed, who was involved and the outcome decided, it is time to turn to some of the factors that will explain why the government of the United Kingdom decided in favor of a US solution.

A. TECHNOLOGICAL FACTORS

Q5 Was the United Kingdom's defence industry self-sufficient in terms of technology needed?

In 1986, Westland's world market share of military sales of helicopters in service was 3.5%. In Europe it ranked third

behind France and Italy. In the United States, Sikorsky's shares was 7.1%, second only to Bell.⁴⁸

Westland entered the helicopter industry in 1947 when it acquired a license from Sikorsky to build the S-51 (renamed Dragonfly.) Technical association with Sikorsky continues to this day. In total, Westland had produced and sold more than 1200 Sikorsky-designed helicopters to countries throughout the world by 1986.⁴⁹

Westland's troubles stemmed from a failed commercial helicopter venture, the W30 and a change in policy which allowed "manufacture in advance of orders."⁵⁰ The W30 was a failure. It was designed to be the United Kingdom's first "made from scratch" purely civilian helicopter. Market research had shown that the world civil market was going to grow, yet W30 production was a losing proposition. What few W30s were sold proved problematic to their owners. The helicopters had a limited payload and inferior speed, among other problems. To compound Westland's troubles, several W30s crashed due to mechanical failure. Sales henceforth were difficult and the real troubles began. The helicopter company needed capital and technology to remain self-sufficient. If

⁴⁸ Creasey, p. 129.

⁴⁹ Atkins, p. 271.

⁵⁰ "Westland W30 development a 'huge mistake'," *Jane's Defence Weekly*, 18 January 1986, p. 45.

Westland failed to attract a partner, the United Kingdom's sole helicopter manufacturing capability would have ceased.

The United Kingdom's defence industry was not self-sufficient in terms of helicopter production if Westland failed. According to the MoD, "the United Kingdom was going to be able to purchase from NATO sources the helicopters that British forces needed."⁵¹ If Westland went bankrupt, the Ministry of Defence would be forced to rely on outside sources.

Q6 Was arms exportation of equipment a factor in partners chosen/not chosen?

The answer is affirmative. According to Sir Cuckney, "the Black Hawk [was] important, but [his company] believed the export potential for it [made] the deal attractive on its own."⁵² When asked if he saw sales to third countries of British-built Black Hawks, Mr. Paul replied, "Absolutely."⁵³ Arms exportation was evidently of critical importance in Westland's decision to choose Sikorsky.

Q7 Did technology transfer enhance/detract from US/European collaborative projects?

The answer to this question depended upon whom was asked. The European consortium judged that "Sikorsky's association

⁵¹ HCDC, "Government's Decision-Making," para. 31.

⁵² Atkins, p. 241.

⁵³ *Ibid.*, p. 275.

with Westland [would] enable it to bring its technical and marketing expertise to bear on European military and civil helicopter programs."⁵⁴ Technology transfer coming from Sikorsky added to Westland's desire for their rescue bid. This meant that the European rescue bid, which offered little in the way of new technologies, had less of a chance to succeed. Westland stood to gain technologically from Sikorsky's participation.

The United States government viewed Sikorsky's participation in Westland as a situation which could raise technology transfer questions.⁵⁵ On the positive side, it raised cooperative transatlantic military program possibilities.

The full significance of the UTC-Fiat participation in Westland regarding technology transfer will not be apparent for years to come. Suffice it to say Westland was enhanced by U.S. collaboration, particularly when compared to the European alternative which offered little in the way of guaranteed work or technology.

B. ECONOMIC FACTORS

Q8 Was the United Kingdom's industrial capability threatened if the project was not completed?

⁵⁴ Fink, p. 13.

⁵⁵ *Ibid.*

The effect Westland's failure would have had on the United Kingdom's industrial capability had Westland gone bankrupt can not be known since the U.S. rescue bid kept the company solvent. However, competing opinions within Thatcher's government kept this case in the public's view. The issue of the United Kingdom's future industrial helicopter capability was of significance in the Westland affair.

UK Secretary of Defence Heseltine sponsored the European consortium's counter proposal because he felt threatened by "another advance for American technological hegemony."⁵⁶ Heseltine's resignation came in part because of his refusal to be silenced "over an issue which he believed had profound implications for 'defence procurement and the United Kingdom's future as a technologically advanced country'."⁵⁷

UK Secretary of State for Trade and Industry Leon Brittan, held the opposing view which incidentally was never made public. It was his belief that "...it [was] by no means certain that letting the company go bankrupt would be damaging to essential national interests..."⁵⁸ The Prime Minister had that paragraph deleted from an official inquiry into a smear campaign between Heseltine and Brittan.

⁵⁶ "Westland sets the Tories spinning," *The Economist*, 4 January 1986, p. 43.

⁵⁷ Linklater and Leigh, p. 150.

⁵⁸ *Ibid.*, p. 198.

Whether Thatcher consciously abandoned her official policy of impartiality remained unclear--but she took active steps behind the scenes to undermine Heseltine's public advocacy of the European option.⁵⁹

Q9 Was a decision made within a specified time-frame to avoid an economic downturn?

Time was a key factor in the Westland affair. By December 6th 1985, the government of the United Kingdom was concerned that Westland could go into receivership without quick financial reconstruction.⁶⁰ By this time, the government was placed in a difficult situation. With Heseltine's encouragement, the National armaments directors (NADs) had agreed to come up with a European solution to save Westland. The government had to decide how to respond to NAD; if the government did not drop the NAD proposal, Westland would not have a choice and the U.S. option would be nixed.⁶¹

A deal had to be signed before Westland would be trading fraudulently and insolvently. The financial struggle for Westland became frenzied. The details of what actually happened "suggest[ed] that the behavior of the City of London

⁵⁹ Ian Davidson, "The Westland Affair: policy issues," *The World Today*, Vol. 42 No. 3, March 1986, p. 37.

⁶⁰ HCDC, "Government's Decision-Making," para. 73.

⁶¹ *Ibid.*, para. 76.

match[ed] anything that had taken place in the corridors of Whitehall."⁶²

Economic disaster was avoided, but in doing so there was a definite bias toward selecting the UTC-Fiat option.

C. SOCIO-POLITICAL FACTORS

Q10 Was the defence industry of the United Kingdom guided by government guidelines?

The government's policy regarding defence industry was put into question during the Westland affair, but was never satisfactorily determined. It appears that there were several policies with respect to defence procurement, notably, in the case of Westland, the 1978 "Declaration of Principles."

The adoption of the Declaration of Principles committed four European governments--France, the FRG, Italy and the UK to work together to develop and produce new military helicopters. The idea was to pursue common policies with industry in order to increase standardization and interoperability by rationalizing the industry. The goal was to reduce the number of helicopter types used within the Atlantic Alliance. The spirit of the declaration was European.⁶³

⁶² Linklater and Leigh, p. 174. (See Chs. 13 & 14 for detailed accounts of the stock exchange phenomena that took place re: Westland.)

⁶³ Creasey, p. 130. (See Appendix 1 of Atkin's "Defence implications....," for the 1978 document.)

The defence committee investigating the Westland case wanted to know how important the declaration agreement had been in producing collaboration in terms of helicopter development. Michael Heseltine said it had been "extremely successful."⁶⁴

The government, on the other hand, said that "the collaborative projects launched in pursuance of the Declaration of Principles [had] not taken the precise form originally envisaged."⁶⁵ This statement was made in response to the Westland case--specifically the U.S. rescue. The objective of rationalizing European production of helicopter types was not being met.

Prime Minister Thatcher professed a policy of impartiality regarding government involvement in the defence industry. As it turned out, it was hard for her to sustain the argument that the United Kingdom's defence procurement decisions should be a matter of indifference to the British government.⁶⁶

At issue in the Westland affair was the kind of protectionism in the defence industry that was expensive to taxpayers and could give armed forces inferior equipment. The government ended up "paying lip-service to the concept of market forces and shareholder democracy...at the same time it

⁶⁴ Atkins, p. 7.

⁶⁵ CMD 9916, "Government's response to Third and Fourth Reports HC 518/519," October 1986, para. 14.

⁶⁶ Davidson, p. 38.

was playing a strongly interventionist role to ensure that the 'right' decision, in the opinion of a small number of people, was eventually taken." ⁶⁷

Q11 Did the Prime Minister become involved?

There is no doubt that Prime Minister Thatcher was deeply involved in the Westland decision, despite the fact that the Government had reached the collective view that "the national interest did not demand a public sector rescue of Westland...it was for the Company itself to decide."⁶⁸ Her involvement was intense--she called many of the shots which went contrary to her stated policy of impartiality.

Prime Minister Thatcher worked closely with her minister of Trade and Industry. Together, they managed to block many of Heseltine's moves. For example, Thatcher had decided to reject the recommendations from NAD, but since a minority of her Ministers felt strongly about it, she called for an Economic Sub-Committee. She told the House that at the economic meeting on 9 December 1985 it had been concluded that, "unless a viable European package ..was in place by 4.00 p.m. on 13 December--the Government would make it clear that the country would not be bound by the recommendation of the National Armaments Directors."⁶⁹ The Lower House concluded, "if those

⁶⁷ Linklater and Leigh, p. 206.

⁶⁸ HCDC, "Government's Decision-Making, para. 102.

⁶⁹ *Ibid.*, para. 76.

words [were] to be taken literally, the condition imposed by the Government..was impossible to fulfill."⁷⁰ Westland was not due to have a Board meeting until late that evening!

Thatcher's decision to tell the Westland Company that NAD's recommendation would lapse at 4pm on 13 December was an invitation not to advance the company's Board meeting, thus letting the recommendation lapse.

Heseltine had words to say about her involvement regarding the 9 December meeting. He said the "meeting ended with a clear statement that we would meet again on Friday [the 13th] at 3.00 p.m....It was a devastating surprise when [the Cabinet Office] subsequently cancelled the meeting."⁷¹

Thatcher went on to tell the House that no such meeting was taken or recorded. She managed to squelch the NAD recommendation and Heseltine at the same time.

Thatcher also used her authority to deny Heseltine the right to put the Westland case before the Cabinet. In addition, "Mrs. Thatcher personally oversaw the response to each move made by her dissident defence secretary."⁷²

Prime Minister Thatcher was a close friend of Sir Cuckney, Westland's director. At one stage in the scandal, she made a

⁷⁰ *Ibid.*, para. 77.

⁷¹ *Ibid.*, para. 80.

⁷² "Heseltine stakes his shirt on a different future," *The Economist*, January 11, 1986, p. 47.

significant move to support Cuckney which contradicted and humiliated Heseltine's authority."⁷³ Her relationship with Cuckney helps to explain why she got personally involved. By the time the case was over, two of her top ministers had resigned. Thatcher's self-esteem was bound up with the fate of Cuckney's helicopter company.⁷⁴

The Prime Minister's personal involvement in the Westland affair was reportedly damaging to her government. As one critic pointed out, her involvement "would reveal a Prime Minister who [had] always stressed the importance of being open with the British people, presiding over an affair where concealment rather than candor was the guiding force."⁷⁵

Q12 Was detente an issue?

The effect that East-West detente may have had on the United Kingdom's defence procurement in 1985 was negligible. In the Soviet Union, Mikhail Gorbachev had just recently come into power. In the United States, President Reagan's military build up continued apace. Unlike the other two cases examined in this thesis, the Westland affair was not severely impacted by detente. The North Atlantic Treaty Organization (NATO) was alive and well in 1985.

⁷³ Linklater and Leigh, p. 121.

⁷⁴ *Ibid.*, p. 149.

⁷⁵ *Ibid.*, p. 4.

What did have an impact on the Westland crisis was the time in which it happened--at a time when the United Kingdom's defence effort was starting to be squeezed at the margins.⁷⁶ By 1985, defence procurement decisions had to be critically scrutinized and justified. No longer were all projects affordable nor fundable. Modernization costs for equipment had escalated and were continuing to rise. The time had come to shave down force sizes and weapon procurement.

Q13 How important were NATO/US relations in determining the outcome?

Internal political pressures had more to do with the Westland case than NATO or US reaction, but the Westland affair was far reaching. As shown, the government of the United Kingdom had to deal with NAD's proposal in such a manner as to give the American option a chance.

Since Westland's financial troubles were a UK problem, Thatcher could afford to be less concerned about external reactions. She managed to suppress NAD's proposal without a major political backlash as seen in the last question. She put the onus on Westland, so that the decision to choose Sikorsky could be seen as belonging to Cuckney and his shareholders, not Margaret Thatcher.

If political pressures from the United States were a concern, it did not become public. While it is true that

⁷⁶ Freedman, p. 3.

Westland first signed a deal with Sikorsky in 1946 and relations between the two companies were good, top level government personnel were not directly involved.

Thatcher's political pressure came from within her government. "For the British Government now to acquiesce in an American helicopter company taking what might be thought by the European companies to be virtually a controlling stake in the only British manufacturer would have been contrary to the spirit of the 1978 declaration [of principles]."⁷⁷ Contrary or not, Margaret Thatcher proceeded to accept a U.S. rescue bid for her failing helicopter industry.

D. MILITARY FACTORS

Q14 What was the equipment to be used for?

The Westland affair did not involve any equipment that had been ordered for a specific mission within the realm of the United Kingdom's defence, unlike the following two cases. The Westland Affair concerned an entire helicopter manufacturer.

Helicopters can have a variety of missions. In the United Kingdom, helicopter buying was prone to inter-service squabbles. The Army, Navy, and Royal Air Force all operated them. Helicopter's had no one backer to give them bureaucratic clout.⁷⁸

⁷⁷ HCDC, "Government's Decision-Making," para. 42.

⁷⁸ Linklater and Leigh, p. 34.

When Westland's financial troubles became known, the company was nearing the end of its production run of the Sea King helicopter; and time was coming when it would become necessary to replace their production. Knowing this, the company made a bold decision to venture into a civilian helicopter program, referred to as the W30 (as discussed in question 5.)

Westland's WS70, the renamed Black Hawk design, as a result of the Sikorsky deal, was used for training and market support activities. WS70s mission was not vital for securing the United Kingdom's defence. Rather, it was critical to Westland's very existence in defence industry.

Q15 Did military strategy (keeping control of essential defence requirements) preclude US/European collaboration?

A simple answer to this question is no. Military strategy had less to do with Westland's acceptance of an outside source to salvage its company than economics.

National procurement, had it been financially possible, would no doubt have been preferable to the United Kingdom's defence industry. This was not the case. The government got involved. Saving Westland i.e. the United Kingdom's only helicopter company, was a matter of prestige, not military strategy.

E. SUMMARY OF CASE

The public and private face of the Westland affair represented two different aspects of the Thatcher Administration. Publicly, the British government stressed that "the Board of Westland had the right and responsibility to make and defend its decision whether to associate with UTC-Sikorsky or the European consortium."⁷⁹

Privately, the government ensured that the company was rescued, and rescued by an American firm. In one final analysis, the Westland affair "shed an uncomfortable light not only on the way the Government machine in the United Kingdom can be run, but how it can be used to stifle dissent and ensure that secret decisions and secret motives are protected."⁸⁰

Table 2.4 illustrates each of the explanatory variables in terms of how each of them contributed to the Government's decision. Each factor is rated as Important, Marginal, or Not Important.

⁷⁹ CMD 9916, para. 26.

⁸⁰ Linklater and Leigh, p. 4.

TABLE 2.4 RATING THE FACTORS

Explanatory Variables	Important	Marginal	Not
Q5 Industry(Tech)	X		
Q6 Exports	X		
Q7 Tech Transfer	X		
Q8 Industry(Econ)	X		
Q9 Economic ruin	X		
Q10 Govt policy		X	
Q11 PM involved	X		
Q12 Detente			X
Q13 NATO/US rels.		X	
Q14 Equipment		X	
Q15 Mil. Strategy			X

III. NATO FRIGATE REPLACEMENT 90

"The cases selected-NATO Hawk, NATO Sea-Sparrow...and NATO Frigate Replacement-have not been selected because they were better than other cases but simply because they have been successful-by NATO standards-for a variety of different reasons."⁸¹ [Excerpt from a study of "successful" cases of cooperative armaments programs.]

"Spain's withdrawal late last month [December, 1989] from the effort to develop a standard frigate class for the 1990s (NFR-90) was the shot₈₂ that finally sunk NATO's largest cooperative project."

The NFR-90 programme was prematurely terminated. Why? What happened to NATO's potentially first 'cradle-to-grave' cooperative project? Some clues emerge as the next fifteen questions, regarding the cancellation of the NATO Frigate Replacement programme are answered.

Q1 Who participated in the project?

Following a 1981 pre-feasibility study, the NATO Frigate Replacement program originally consisted of seven nations. Those nations were: the United Kingdom, Canada, France, the Federal Republic of Germany, Italy, The Netherlands, and the

⁸¹ Kelly Campbell, *Military Systems Acquisition In The NATO Market*, New York: Frost and Sullivan, Inc., 1985, p. 131.

⁸² Theresa Hitchens, "Spain Sinks NFR-90 Hopes," *Defense News*, Vol. 5 No. 2, 8 January 1990, p. 1.

United States.⁸³ Spain joined the program a short time later. Table 3.1 shows the distribution of frigate orders anticipated in 1984.

TABLE 3.1: 1984 NFR-90 ORDERS

Country	Number of ships
United States	18
United Kingdom	12
France	4
Italy	4
W. Germany	4
Spain	4
Canada	4
The Netherlands	2

(Source: Ted Hooton, "NFR 90 NATO's next-generation frigate?," International Defense Review, 4/1988, p.409.)

Q2 What impact did the project have on the defence budgets in terms of magnitude?

The main rationale for the eight nations to proceed with a joint frigate program was "the economies of scale obtainable from international collaboration."⁸⁴ Given that the project was spread among eight nations, NFR-90 was anticipated to absorb a smaller percentage of national defence budgets than

⁸³ "The NATO FRIGATE," *NATO'S Sixteen Nations*, Vol. 28 No. 2, April-May 1983, p. 84.

⁸⁴ W.T.T. Pakenham, RN, CAPT, (Rtd), "The NATO Frigate Project-A View from British Industry," *Naval Forces*, Vol. X No. V, 1989, p. 35.

if each had chosen to go it alone. Savings were estimated at 25%.⁸⁵

The industries and defence contractors involved were many. The pre-feasibility study involved 90 companies and 150 engineers and cost the United Kingdom \$7 million.⁸⁶ The 1984 feasibility study alone cost an estimated \$15 million and involved the participation of the following "lead" companies: Acres International Ltd of Canada, Thomson-CSF of France, MTG Marinetechnik GmbH of the FRG, Cantieri Navali Italiani of Italy, Hollandse Signaal Apparaten BV of The Netherlands, Empresa Nacional Bazan of Spain, British Shipbuilders, and Westinghouse Corporation of the United States.⁸⁷ The costs were considerable. By 1989 it had become necessary to increase the budget or make a smaller, less capable ship. The preliminary figure of \$30 billion for 52 ships was expected to rise unless the participants would agree to scale back operational requirements.⁸⁸ The United Kingdom's defence budget had been decreasing since 1985 and was virtually static in 1990 at \$33.8 billion--a decrease of 0.6% from 1989's

⁸⁵ Campbell, p. 147.

⁸⁶ "U.K. Leaves NFR-90 NATO Frigate Program, Future in Doubt," *Aerospace Daily*, 3 October 1989, p. 11.

⁸⁷ John Llewellyn, "The NATO Frigate Replacement," *Naval Forces*, Vol. VII No. 1, 1986, p. 25.

⁸⁸ Giovanni De Briganti and Theresa Hitchens, "NATO Frigate Plan Faces Dilemma: Build Smaller Ship or Raise Budget," *Defense News*, Vol. 4 No. 37, 18 September 1989, p. 4.

budget.⁸⁹ The United Kingdom could no longer afford to continue participating.

By the time the United Kingdom withdrew from the project in September 1989, costs were given as one of the reasons. "A decision on whether to join the two-year \$82 million project definition stage was...[the] deadline which triggered the U.K. withdrawal."⁹⁰ Comparative costings showed a 70 million pound difference between a Type 23 Frigate for the Royal Navy (at 130M) and the NFR-90 (at 200M).⁹¹

Upon withdrawing from NFR-90, the United Kingdom awarded a follow-on contract to Swan Hunter for three Type 23 frigates, at an estimated cost of 500 million dollars. (The United Kingdom was supposed to purchase 12 NFR-90s, second only to the United States' order of 18.) The new contract was expected to create 10,000 jobs over five years.⁹²

The NFR-90 had a substantial impact on the United Kingdom's defence budget and her decision to withdraw prematurely. Twelve ships at an estimated cost of \$308M each

⁸⁹ -----, "UK defence budget almost static at 21.2 B," *Jane's Defence Weekly*, 25 November 1989, p. 1133.

⁹⁰ "U.K. Leaves...", p. 11.

⁹¹ "NFR-90's future in doubt," *Defence*, Vol. 20 No. 11, November 1989, p. 840.

⁹² Francis Tusa, "In Wake of NFR-90 Withdrawal, UK Lines Up Frigate Contracts," *Armed Forces Journal International*, February 1990, p. 41.

would have eaten up the lion's share of the sea equipment procurement allotment of any given year.⁹³

Q3 What types and levels of technology were utilized?

The NFR-90 would have incorporated a variety of technologies and levels. The three principal subsystems included: the hull and machinery, electronics, and weapons.⁹⁴ A substantial amount of new technology was to be used in the NATO frigate, beginning with state-of-the-art computer technology. A new computer technology with a "distributed architecture" was to have used mini and micro computers connected together in a network.⁹⁵

In addition, NFR-90 was designed to utilize a new missile system, NATO Antiair Warfare System, NAAWS or Family of Air Missiles, FAMS. The choice between the two became the crux of the project's troubles. On the one hand was the US-led NATO Antiair Warfare System (NAAWS). On the other hand was the European-led Family of Air Missiles (FAMS).⁹⁶

⁹³ David Fouquet, "NFR-90 Project Rocked by UK Pullout," *Armed Forces Journal International*, November 1989, p. 36.

⁹⁴ "Nine British Companies in Joint Bid for New NATO Frigate," *Defence*, Vol. 18 No. 11, November 1987, p. 664.

⁹⁵ Roger L. Schaffer, P.E. and Harvey G. Kloehn, P.E., "Design of the NFR-90," Westinghouse, February 1990, p. 23. This document was made available to me by Mr. Harvey Kloehn, chief engineer of the NATO Frigate Program, who worked in Hamburg, Germany for Westinghouse.

⁹⁶ "NFR 90: the pains of collaboration," *Jane's Defence Weekly*, 14 October 1989, p. 783.

Countries supporting NAAWS included France, Italy, The Netherlands, Spain, UK and US. FAMS gained support from France, Italy, Spain and the UK.⁹⁷ Before the project was cancelled, France and Italy withdrew from NFR-90 which effectively killed FAMS as a possibility for a NATO-wide programme for the NFR-90.

In all, thirty major procurement areas were under project control. Costs were to be shared with national industries to ensure that "no nation in the project would have a national trade imbalance by participating."⁹⁸

Further information regarding technologies to have been utilized in the frigate can be found throughout the Westinghouse document, "Design of the NFR-90."

Q4 Which option was chosen and what were the specific arrangements: 1)UK, 2)UK/US, 3)UK/EUROPE or 4)UK/Europe and US?

Had the NFR-90 continued through completion, it would have been a truly international collaborative effort involving much of Western Europe and the United States. Instead, as seen in question 2, the United Kingdom lowered its order from 12 to 3 frigates and awarded a contract for a national design to Swan Hunter, thereby selecting a national solution.

⁹⁷ Industries within the United Kingdom and Spain worked on both systems.

⁹⁸ Schaffer and Kloehn, p. 4 1.

The argument made public at the time of the United Kingdom's withdrawal from the program was that the design had progressed far enough for the "Government to be sure that it would not meet national requirements."⁹⁹ Moreover, at the time of the United Kingdom's withdrawal, it emerged that "the United States Navy's commitment to the programme may only [have been] a paper one."¹⁰⁰

The US, Canada and The Netherlands agreed to continue the NAAWS project, but in the case of the frigate program, "the three countries determined that a trilateral effort was not profitable."¹⁰¹

Since most of the European NFR-90 members still need new frigates "they expect new national, bilateral or multilateral development projects to emerge."¹⁰² In March 1990, Yarrow Shipbuilders Ltd., a subsidiary of the United Kingdom's General Electric Co., proposed a new Super Frigate as an alternative to the defunct NFR-90. Two other informal European proposals have also been launched: a joint venture between the

⁹⁹ Norman Friedman, "Fall-out from the NATO Frigate," *Proceedings*, March 1990, p. 172.

¹⁰⁰ Barbara Starr, "NFR 90: USN 'had no official interest'," *Jane's Defence Weekly*, 14 October 1989, p. 762.

¹⁰¹ Hitchens, p. 37.

¹⁰² *Ibid.*

Germans and the Dutch and a French proposal to involve the Italians, Spanish and British defence ministries.¹⁰³

Initially it seems that what happened to the NATO Frigate programme was a lack of financial commitment by the United Kingdom and disagreement among the partners about which missile system to use. In addition, the ship's design did not meet the United Kingdom's needs. We turn now to other factors which can help to further explain why the NATO frigate sank.

A. TECHNOLOGICAL FACTORS

Q5 Was the United Kingdom's defence industry self-sufficient in terms of technology needed?

The United Kingdom has long been known for its shipbuilding capability, but the industry had been hit by defence spending cuts in recent years. The 1990 defence budget called for a 16% cut (8 ships) in the Royal Navy's destroyer/frigate force.¹⁰⁴

The United Kingdom's entry into the collaborative frigate programme, in addition to being an economical consideration, was based on the opportunity to expand its technological ability. The same is held for the ship's intended missile system.

¹⁰³ Michael J. Witt, "Scottish Shipbuilder Floats Latest Design Alternative to Supply NATO's New Frigate," *Defense News*, March 12, 1990, p. 4.

¹⁰⁴ "Britain The peace prospectus," *The Economist*, July 28, 1990, p. 47.

A survey of Jane's Fighting Ships shows that the United Kingdom is capable of building frigates comparable to many nations. Swan Hunter is currently building three "Duke" class Type 23 frigates for service in the Royal fleet.

Q6 Was arms exportation of said equipment a factor in partners chosen/not chosen?

Early evidence in the case suggested that the issue of exportation was of a delicate nature and had remained muted. However, the idea of exporting the NFR-90 to non-NATO nations undoubtedly offered possibilities.¹⁰⁵

While it is true that reasons other than exportation possibilities were given as the driving force behind the frigate project, the United Kingdom relies heavily on exports. In particular, British naval exports have done especially well in recent years--"they account for 15-20% of a total of about \$3-4 billion sold over the past year [1989]."¹⁰⁶

Q7 Did technology transfer enhance/detract from this collaborative project?

In the early stages of the project, the secondary motivation for participating was the opportunity for technology exchange and improvement. The advantage of the

¹⁰⁵ "The NATO Frigate," *NATO'S Sixteen Nations*, Vol. 28 No. 2, April-May 1983, p. 84.

¹⁰⁶ Norman Friedman, "Britain Cancels NATO Frigate," *Proceedings*, December 1989, p. 124.

large collaborative project was the "ability to aggressively pursue technical innovation."¹⁰⁷

As previously discussed, the main attraction of the project was the weapon system of the frigate, in which each nation stood to gain from shared technologies.

Technology transfer became a detractor to the United Kingdom whose industry "registered its 'serious concern'" about US domination over the UK in fields of technology concerned with the frigate.¹⁰⁸ The UK's Chief of Defence Procurement, Peter Levene, "feared that the USA might reap the benefit of supplying much of the technology..without taking any offsets."¹⁰⁹

In another interview, Mr. Levene indicated that the UK would cut programmes if technical solutions did not materialize.¹¹⁰ Technology transfer could have enhanced collaboration had the project been completed.

¹⁰⁷ Schaffer and Kloehn, p. 37.

¹⁰⁸ "MOU ON NFR 90," *Naval Forces*, Vol. VIII No. VI, 1987, p. 101.

¹⁰⁹ Desmond Wettren and Paul Beaver, "Concern over UK involvement in NFR 90 programme," *Jane's Defence Weekly*, Vol. 8 No. 11, 19 September 1987, p. 569.

¹¹⁰ Barbara Starr, "UK denies major policy shift....," *Jane's Defence Weekly*, 21 October 1989, p. 883.

B. ECONOMIC FACTORS

Q8 Was the United Kingdom's industrial capability threatened if the project was not completed?

The United Kingdom's defence industry has been losing its ability to remain self-sufficient. It has been warned that certain towns totally dependent on Royal Navy dockyards could "suffer permanently" if defence cuts continue at the projected rate of 8-9% per year through the year 2000.¹¹¹ The United Kingdom's shipbuilding industry lost orders because of the United Kingdom's withdrawal from the NFR-90 project. The industry suffered from the project's cancellation, but is more threatened by reduced defence spending levels which have been forecasted through the 1990s.

The United Kingdom's defence industry was "disbarred from providing equipment for NFR-90" because the UK did not participate in the Project Definition phase.¹¹² UK industry was "particularly concerned about the cost of the project definition phase."¹¹³ Therefore the government's decision not to participate in that phase was of little concern to the defence industry.

¹¹¹ "Counting the ploughshares," *The Economist*, June 2, 1990, p. 65.

¹¹² "MOU ON...", p. 102.

¹¹³ -----, "NFR 90 caught in tax law row," *Jane's Defence Weekly*, Vol. 10 No. 19, 12 November 1988, p. 1189.

An unidentified source has been quoted to the effect that the United Kingdom's withdrawal from the frigate programme was "a tragedy for British industry."¹¹⁴ Other ministers disagreed, saying there was "no point throwing good money after bad."¹¹⁵ The United Kingdom's industrial capability was indirectly threatened by the frigate's cancellation, but more directly so by shrinking defence budgets.

Q9 Was a decision made within a specified time-frame to avoid an economic downturn?

Key decisions were continually being made throughout the length of the United Kingdom's participation in the frigate programme. Many of those decisions were made to avoid overspending and quite possibly to avert economic disaster. For example, early in 1987 the UK's Chief of Defence Procurement advised the Government not to sign the Memorandum of Understanding by 21 October 1987, but to delay entry into the project until a later date so that the UK could "reap the benefit of R&D by the other members of the project without incurring a share of the costs."¹¹⁶

When the UK finally signed the MOU in January of 1988, it was on the condition that the project came under "fundamental

¹¹⁴ Giovanni De Briganti and Theresa Hitchens, "NATO Frigate Project Sinks Under Withdrawals," *Defense News*, Vol. 4 No. 41, October 9, 1989, p. 66.

¹¹⁵ *Ibid.*

¹¹⁶ Wettern and Beaver, p. 569.

scrutiny after a six month review period..."¹¹⁷ The UK signed for six months instead of the full two years agreed by the other partners.

The UK, having provided itself an "out", was the first nation to withdraw from the project on 29 September 1989. Dissension had arisen between the participants over several issues--costs being one of them.¹¹⁸ European observers believed that the "soaring cost of the project [was] one of the main reasons for the U.K. pullout."¹¹⁹

Since it was never entirely clear that the expected savings associated with the NFR-90 could be realized, it is not difficult to believe that the UK pulled out to avoid overspending on a frigate that was reputedly not in the United Kingdom's national interest. In addition, the Royal Navy acknowledged that "the [NFR-90] Program would cost more than any national program."¹²⁰

C. SOCIO-POLITICAL FACTORS

Q10 Was the British defence industry guided by government guidelines?

¹¹⁷ Pakenham, p. 40.

¹¹⁸ "UK pulls out of NFR-90," *International Defense Review*, 10/1989, p. 1295.

¹¹⁹ "U.K. Leaves NFR-90 NATO Frigate Program, Future in Doubt," *Aerospace Daily*, 3 October 1989, p. 11.

¹²⁰ Friedman, "Britain Cancels...", p. 124.

The Government relied on Levene's recommendations and consequently followed them regarding the NFR-90. The NFR-90 was under the Value for Money programme.

The Government, encouraged by Levene and the Treasury Department, held off signing the MOU, as we saw previously. The decision to withdraw from the frigate programme "was made at the Cabinet level."¹²¹ "It was a cabinet-level decision pushed by the Treasury and opposed by the Ministry of Defence."¹²²

Q11 Did the Prime Minister become involved?

Prime Minister Thatcher was involved in the decision to cancel the United Kingdom's participation in the NATO frigate program, but not to the extent that she showed in the Westland case.

The "British decision to withdraw from the NFR-90 was taken at the Government level, under pressure by the Treasury."¹²³ The project was handbagged by the British treasury "implying the United Kingdom's withdrawal was decided by Prime Minister Margaret Thatcher..¹²⁴

¹²¹ Friedman, p. 172.

¹²² "NFR 90: the patient finally expired," *Navy News & Undersea Technology*, February 5, 1990, p. 7.

¹²³ "NFR-90 Shrinks," *Military Technology*, 11/89, p. 122.

¹²⁴ De Briganti and Hitchens, "NATO Frigate Project Sinks...", p. 66.

As far as the NFR-90 went, it appears that the Prime Minister followed the advice of her Ministers of Defence and Treasury. This fact was collaborated by Captain Gordon Wilson, Head of Defence Studies (Royal Navy), in an informal conversation held at the Naval Postgraduate School on 7 November 1990.

Q12 Was detente an issue?

Detente was an issue throughout the life of the frigate programme. In the frigate's initial stages, detente was in the background. The navies involved progressed through the pre-feasibility and feasibility studies with different ideas of the threats to be countered because of differing operating ocean environments.¹²⁵

As the project marched on, so too did the thaw in East-West relations. Negotiations between the opposing pacts--NATO and WTO, involving conventional forces in Europe (CFE), were nearing completion by 18 November 1990. According to one observer, the "changing atmosphere on collaborative programmes was partly due to the possibility of an agreement with the Soviet Union on conventional force reductions in Europe and new agreements on confidence and security-building measures."¹²⁶

¹²⁵ Pakenham, p. 40.

¹²⁶ Starr, "UK denies...", p. 883.

The anticipated "peace dividend" contributed to the frigate's demise. In times of 'peace', "defence spending is bound to be under constant critical scrutiny..therefore the estimated cost for the NATO Frigate project, is bound to be uppermost in all minds."¹²⁷

Q13 How important were NATO/US relations in determining the outcome?

For the United Kingdom, the decision to join the NATO programme was a difficult one. "She [had] every need to enter Europe fully..even if [it led] to short term loss."¹²⁸

Arguments in the United Kingdom would be no different than those in any other country namely that-- "industry and employment must be safeguarded at whatever cost."¹²⁹ Ministries had the ambition to collaborate meaningfully without success. Industry would have the chance to do what unsuccessful ministries failed to achieve. Industry ultimately needed the government's backing (and money) which ended in 1989.

If the NFR-90 was to have been successful, it would have had to pass some demanding tests. For one thing, "there [had]

¹²⁷ Wright, p. 44.

¹²⁸ Roger Villar, "The NFR 90 Project NATO's Frigate," *Navy International*, Vol. 88 No. 6, June 1983, p. 352.

¹²⁹ *Ibid.*

to be a clear balance of advantage from each and every national point of view." ¹³⁰

The United Kingdom's "non-participation...would undoubtedly have serious ramifications on the future success of the programme." ¹³¹ If the United Kingdom considered her partners when she withdrew, it was not a matter of public knowledge.

"Politically, this chance of industrial co-operation within Europe, assisting the creation of a European defence industry matching that of America, would come to nothing." ¹³²

The French are said to have played a major political role in the collapse of NFR-90 by pressuring her allies against the "North American" program. The French lobbied against U.S. participation in a European frigate program, but to little avail. However, the French continued to pressure the Europeans and are blamed by some for the frigate's demise. ¹³³

The French, incidentally, are not in the military organization within NATO, despite their membership in the Alliance. Consequently, when French warship designers saw the

¹³⁰ Wright, p. 40.

¹³¹ "MOU..," p. 101.

¹³² Pakenham, p. 42.

¹³³ Brendan McNally, "Industry Players Point To France As Basic Reason Why NFR-90 Has Collapsed," *Inside the Navy*, January 17, 1990, p. 1.

NFR-90 design, they saw it "as a threat to their own positions."¹³⁴

As for NATO's reaction, NATO's assistant secretary general at that time, Mr. Mattingly, had this to say about the United Kingdom's withdrawal--"maybe, it is, after all, worthwhile for the British. They got something out of it; the valuable knowledge that it's better to go their own way."¹³⁵

D. MILITARY FACTORS

Q14 What was the equipment to be used for?

Frigates are the backbone of most NATO navies. Originally conceived for anti-submarine warfare missions, the NFR-90 concept gradually shifted emphasis to antiair operations.¹³⁶

Each country had a different mission requirement which meant that NFR-90 had to be designed around a flexible platform. According to one study, there were seven categories of mission requirements; 1) surveillance, 2) protection of high value units, 3) protection of shipping, 4) area operations, 5) support of amphibious operations, 6) non-combat operations, and 7) self defence.¹³⁷

¹³⁴ *Ibid.*

¹³⁵ De Briganti and Hitchens, "NATO Frigate Project...",
p. 1.

¹³⁶ Fouquet, p. 36.

¹³⁷ Schaffer and Kloehn, p. 26.

The principle objectives of the project were to: develop a common ship and combat system design and maintain/improve competitiveness of NATO industry.¹³⁸ The frigate program got off to a rocky start when the participating nations could not agree on one single design. The solution was to build a baseline design which could accommodate a number of national variants.¹³⁹

Problems continued. For the United Kingdom, the mismatch between the NFR-90 time scale and the immature AAW systems caused critical inquiry and ultimate withdrawal. The ship's role was also given as one reason why the United Kingdom pulled out.¹⁴⁰ The divergence between ASW and AAW contributed to the frigate's failure. A common frigate design could not be evolved to satisfy the broad requirements of the eight nations.

Q15 Did military strategy (keeping control of essential defence requirements) preclude US/European collaboration?

When the concept of the NATO frigate was born, the project offered "the NATO navies opportunities that [were] unobtainable through national programmes."¹⁴¹ The British

¹³⁸ B.L. Harris, "Lessons Learned from the Premature Termination of the Programme NATO Frigate for the 90's (NFR-90)," letter from ISS Supervisory Board to Chairman of NIAG, 15 May 1990, p. 1.

¹³⁹ Pakenham, p. 39.

¹⁴⁰ "UK pulls out...", p. 1295.

¹⁴¹ Pakenham, p. 35.

navy welcomed the NFR-90 on the theory it would be extremely difficult for the government to abandon. Keeping control of essential defence requirements was not such a concern. The Royal Navy was willing to accept the new frigates as a less-than-perfect compromise. (The Royal Navy needed ships to replace their Type-42 area air-defense destroyers.)

When the government of the United Kingdom withdrew, the Navy was shocked. Did this mean the government was unwilling to spend enough to buy a good surface combatant or even a "second-rate area defence ship..?"¹⁴² The UK Ministry of Defence explained its decision to pull out by saying that "NFR-90 was two years ahead of the British requirement."¹⁴³ But the national requirement argument has been criticized as a "convenient excuse."¹⁴⁴

Military strategy did not preclude collaboration. British industry and the Royal Navy stood to gain from the United Kingdom's participation in the programme. "Lack of understanding in the nations of what a potentially outstanding ship NFR 90 [was] probably contributed to premature termination."¹⁴⁵

¹⁴² Friedman, p. 124.

¹⁴³ "NFR-90's future...", p. 840.

¹⁴⁴ Friedman, p. 124.

¹⁴⁵ B.L. Harris, p. 6.

E. SUMMARY OF CASE

"International industry [was] unable to find any substantive reasons, beyond the short term political and economic interests of the participating nations, as to why the NFR 90 programme was prematurely terminated."¹⁴⁶

Table 3.2 illustrates each of the explanatory variables in terms of how each of them contributed to the government's decision. Each factor will be rated as Important, Marginal, or Not Important

TABLE 3.2: RATING THE FACTORS

Explanatory Variable		Important	Marginal	Not Important
Q5	Industry(Tech)	X		
Q6	Exports			X
Q7	Tech Transfer	X		
Q8	Industry(Econ)		X	
Q9	Econimc Ruin	X		
Q10	Govt policy		X	
Q11	PM involved		X	
Q12	Detente	X		
Q13	NATO/US Rels.		X	
Q14	Equipment	X		
Q15	Mil.Strategy		X	

¹⁴⁶

Ibid., p.1.

IV. EUROPEAN FIGHTER AIRCRAFT

"Even in early 1990, after three changes of name and several changes of partners, the [EFA] project is not completely secure."... "The UK has the capacity, though not the cash, to make EFA by itself,..."¹⁴⁷

Whether or not the European Fighter Aircraft will fly its first flight in 1991 and begin series production in 1993 as planned is unknown. Answers and observations to the following fifteen questions can help in speculation about the chances or success of the four-nation European Fighter Aircraft.

Q1 Who is participating in the project?

When the combat aircraft target outline was drafted in 1983, France, West Germany, Italy, Spain and the UK were signatories. France withdrew in 1985.

The national design teams are MBB, Aeritalia, CASA and British Aerospace. As such, they are collaborating on development and harmonization of the aircraft.¹⁴⁸

In addition, the newly freed East European industries of Czechoslovakia and Hungary are considering how and when to

¹⁴⁷ Martin Bittleston, "Co-operation or Competition? Defence Procurement Options for the 1990s," Adelphi Papers 250, IISS, London: Brassey's, 1990, p. 57 and p. 41.

¹⁴⁸ *Jane's Fighting Aircraft 1989*, London: Jane's Publishing Company, 1989, p. 121.

approach the EFA consortium for subcontract work.¹⁴⁹ Other nations may contemplate participation in the months ahead.

Q2 What impact does the project have on the defence budget in terms of magnitude?

The European Fighter Aircraft by all standards is expected to be very expensive and to take a major slice out of the defence budgets concerned. In 1985, when the United Kingdom's Secretary of Defence envisaged the project, he predicted a 5 nation project which would produce 1,000 aircraft at a cost of \$35 billion.

The UK's 33% participation is estimated to cost 6-7 billion pounds, based on production beginning in 1991. To get an idea how much the EFA compares to other defence expenditures, a look at what participating nations spent in 1989 on weapons procurement, in US dollars, can put the project in perspective. See Table 4.1 below.

TABLE 4.1: EFA MEMBER MAJOR WEAPON PROCUREMENT EXPENDITURE, IN US DOLLARS, 1988 AND 1989. FIGURES IN US \$M, AT CONSTANT 1988 PRICES.

Nation	1988	1989
UK	8,736	7884
FRG	5,089	4,998
Italy	4,188	4,285
Spain	1,484	1,093

(Source: SIPRI, Armaments and Disarmament 1990, p.153.

¹⁴⁹ Laura E. Chatfield, "Czechs, Hungary Seek EFA Business," *Defense News*, October 22, 1990, p. 3.

The United Kingdom spent 8,241M pounds or 43% of its 88-89 defence budget on equipment.¹⁵⁰ In January 1989, 765 EFA's would have cost between \$31.9 and 37.1 billion.¹⁵¹ To extrapolate, for the UK to purchase 150 EFAs based on an average 1988 price of \$23M, the cost would total \$3.4 billion.

The European Fighter Aircraft has a hefty price tag. For another example, the EFA is Germany's most expensive defence expenditure.¹⁵² In October 1990, Italy's House Defence Committee approved \$490M in R&D funds for the EFA.¹⁵³

Q3 Which type and level of technology are being utilized?

The European Fighter Aircraft will be comprised of technology on all levels, with equal work shares in three areas: 1) airframe, 2) engine, and 3) avionics (including radar.)¹⁵⁴ "There is to be no trade-off between areas so as to ensure a fair spread of technology to all the partners."¹⁵⁵

¹⁵⁰ HCDC, "The Procurement of Major Defence Equipment," Fifth Report, June 1988, p. v.

¹⁵¹ Keith Hartley and Nick Hooper, "Economics: The Ultimate Arms Controller?," *NATO's Sixteen Nations*, December 1988-January 1989, p. 35.

¹⁵² Michael J. Witt, "Report Says EFA Program in 'Serious Trouble'," *Defense News*, Vol. 5 No. 4, 22 January 1990, p. 41.

¹⁵³ "Italians Vote for EFA Funds," *Defense News*, 22 October 1990, p. 2.

¹⁵⁴ Frederick Bonnart, "The European Fighter Aircraft," *NATO's Sixteen Nations*, Dec. 85/Jan. 86, p. 60.

¹⁵⁵ *Ibid.*

Stealth technology will not be used to a high degree because the Europeans do not have all the required technology. The most important technology of the EFA is the radar for which the "success of the entire programme could depend."¹⁵⁶ The radar is part of the avionics system which is said to stretch current state-of-the-art to its limits.¹⁵⁷

Two consortia competed for the radar contract. The Ferranti All-European led consortium offered the ECR 90, "a system based on the Blue Vixen..under development for the Sea Harrier."¹⁵⁸ The Marconi Defence System was part of the West German-led consortium which proposed the MSD 2000--based on "the Hughes APG 65 radar fitted to the US F-18 Hornet."¹⁵⁹

There was high level disagreement over the radar contract with its multibillion dollar award--the largest among the EFA systems. The cost of the radar amounted to 20% of the total project, worth \$2.38 billion.¹⁶⁰ ECR 90 had strong backing because of its all-European heritage.

¹⁵⁶ HCDC Fifth Report, p. ix, para. 24.

¹⁵⁷ A. Latham, "Conflict and Competition over the NATO Defense Industrial Base; The Case of the European Fighter Aircraft," in D.G. Haglund (ed), *The Defense Industrial Base and the West*, London and New York: Routledge, 1989, p. 95.

¹⁵⁸ HCDC Fifth Report, p. ix, para. 24.

¹⁵⁹ *Ibid.*

¹⁶⁰ Giovanni De Briganti, "Beleaguered Ferranti Wins EFA Radar Award," *Defense News*, Vol. 5 No. 5, 29 January 1990, p. 4.

Ferranti won the hotly contested radar contract, but not until the government of the United Kingdom made two major concessions. One, a guarantee to pay any future radar cost overruns and two, an undisclosed industrial trade-off for Germany.¹⁶¹ U.S. defence contractors believed the radar would be the test case for deciding if they would have a role in EFA.¹⁶²

The airframe will utilize low detectability technologies and will be built of composites materials, "using advanced manufacturing techniques..¹⁶³

Contracts also include: 1) multifunction head-down displays, 2) cockpit glare shields, 3) digital engine control units, and 4) a range of engine components.¹⁶⁴

The European Fighter Aircraft offers a multitude of technological requirements, from low levels to the highest available within European industry.

Q4 Which option was/will be chosen: 1) UK, 2) UK/US, 3) UK/Europe or 4) UK/Europe and US? and what are the specific arrangements?

¹⁶¹ *Ibid.*

¹⁶² Gary Putka, "European Fighter Project's Rules May Bar U.S. Firms' Participation," *The Wall Street Journal*, March 3, 1987, P. 36, Col. 1.

¹⁶³ *JANE's*, p. 122.

¹⁶⁴ Charles Miller, "U.K.'s Smiths to Develop Avionics for EFA Program," *Defense News*, Vol. 5 No. 4, 22 January 1990, p. 25.

As of this writing, the United Kingdom and her European partners are continuing with the EFA while "...the U.S. remains largely excluded ..."¹⁶⁵

The United Kingdom reportedly was "not keen to give the U.S. a capability to monitor advances in European radar technology."¹⁶⁶ As a result, "the EFA is unquestioningly the most sophisticated and technologically advanced aircraft yet to be attempted by European industry."¹⁶⁷

The work share arrangements, as established in 1984 and the proposed number of aircraft ordered then, are provided in Table 4.2.

TABLE 4.2: EFA WORKSHARES AND AIRCRAFT ORDERED AS OF 1984

Country	Percentage	Aircraft
United Kingdom	33%	250
Germany	33%	250
Italy	21%	150
Spain	13%	100-150

(Source: "Fighter Aircraft 90," translated from Wehrtechnik, Vol.16 No.5, May 1984,p.6.)

As the years have elapsed, the numbers of desired aircraft have diminished. In 1988, the numbers had been reduced to 200

¹⁶⁵ Trevor Taylor, "The European Fighter Aircraft," unpublished paper, 1989, p. 31.

¹⁶⁶ *Ibid.*, p. 24.

¹⁶⁷ Latham, p. 95.

for Germany, 150-200 for the UK, and 70-90 for Spain.¹⁶⁸ If the numbers drop below the 400 mark, the project will be economically unfeasible.

The Europeans have set out to develop and produce their most sophisticated aircraft to date. Economical and political considerations are building to the point that the partners are proceeding although no outcome has been decided. The next set of questions attempt to explain the EFA's future.

A. TECHNOLOGICAL FACTORS

Q5 Is the United Kingdom's defence industry self-sufficient in terms of technology needed?

British Aerospace is the UK's industrial representative on the project and feels confident that the UK can proceed with the EFA even if all the partners pull out. According to a British Aerospace spokesman, "BAe is confident that the UK has the complete technology potential to carry out the whole project.." ¹⁶⁹

British Aerospace (BAe) has a domestic monopoly as the UK's single producer of major airframes and missiles. In 1979,

¹⁶⁸ "European Fighter Project Partners Cool to U.S. Hornet 2000 Proposal," *Aviation Week & Space Technology*, 28 March 1988, p. 22.

¹⁶⁹ HCDC Fifth Report, p. 62.

BAe was privatized, but not "in a way that would encourage competition."¹⁷⁰

In fact, the Ministry of Defence has, for the first time in several decades, "taken such pains to secure the technology base for its next generation combat aircraft."¹⁷¹

Q6 Is arms exportation of said equipment a factor in partners chosen/not chosen?

Yes. The importance of exportability to the Europeans has meant considerable resistance to American participation in EFA.¹⁷² "The new fighter is being designed to compete in export markets against new generation fighter aircraft being developed in the United States for the U.S. Air Force."¹⁷³

The government of the United Kingdom recognizes that failure to keep pace will jeopardize market opportunities vis-a-vis France and the United States.¹⁷⁴ The European Fighter Aircraft "demonstrates the importance of protectionism and expanded sales markets to European competitiveness."¹⁷⁵

¹⁷⁰ Ron Smith, "Defence spending in the United Kingdom," in Keith Hartley and Todd Sandler (eds.) *The Economics of Defence Spending An International Survey*, London and New York: Routledge, 1990, p. 88.

¹⁷¹ *Ibid.*, p. ix, para. 23.

¹⁷² Latham, p. 102.

¹⁷³ Axel Krause, "European Fighter Project Competes With U.S. Firms," *Europe*, March/April 1985, p. 16.

¹⁷⁴ HCDC Fifth Report, p. lx.

¹⁷⁵ Latham, p. 89.

Since the EFA's exportability is of major importance, problems arose regarding the radar to be used. "Worry over US export controls restricting foreign EFA sales has been an argument [against MSD-2000]."¹⁷⁶ Accepting U.S. radar would have meant that the U.S. could veto EFA exports.¹⁷⁷

The government of the United Kingdom "has been particularly upset by U.S. export policy."¹⁷⁸ The United Kingdom and her European partners "view export sales as vital for achieving adequate profits."¹⁷⁹

07 Did technology transfer enhance/detract from US/European collaborative projects?

Technology transfer issues have detracted from the option of U.S. collaboration. The four-nation consortium has resisted U.S. technology controls in the multibillion dollar EFA program.¹⁸⁰ All EFA contracts must certify that there are no resale restrictions.

Technology, since it is tied to exports, is of crucial significance to the European consortium. Consequently, the consortium rejected France's attempt, in December 1985 to get

¹⁷⁶ "Disagreement Between Britain, Germany Over Radar Could Threaten EFA's Future," *Aviation Week & Space Technology*, February 20, 1989, p. 21.

¹⁷⁷ Taylor, p. 24.

¹⁷⁸ Putka, p. 36.

¹⁷⁹ *Ibid.*

¹⁸⁰ Putka, p. 36.

back into the project with a small 5% share, claiming problems of technology transfer unless France became a full partner.¹⁸¹

The U.S. tried to get involved in the EFA at an early stage, saying it was "prepared in principle to supply..the technology necessary to produce an advanced..radar."¹⁸² The letter stating that came from U.S. Secretary of Defense Carlucci. However, the wording fell short of any clear guarantees that would have satisfied the European doubts about transfer issues. In addition, the last paragraph clouded the issue of when the technology would have been available for transfer.

Even before the Carlucci letter, previous U.S. Secretary of Defense Caspar Weinberger had sent a letter which suggested that "only that certain components and parts could be manufactured in joint efforts with the United States in order to make it more cost-effective."¹⁸³

The European Fighter Aircraft is proceeding without U.S. technology or participation at this time.

¹⁸¹ Bonnart, p. 61.

¹⁸² "Carlucci Letter Backs Supplying Radar Technology for EFA," *Aviation Week & Space Technology*, May 16, 1988, p. 28.

¹⁸³ Bonnart, p. 62.

B. ECONOMIC FACTORS

Q8 Is the United Kingdom's industrial capability threatened if the project is not completed?

Yes. According to the government of the United Kingdom, the European Fighter Aircraft project "is of vital importance to the future of the British aerospace industry."¹⁸⁴

EFA has massive industrial, economic and technological implications. For these reasons, Europeans fear the idea of buying American fighters because it would mean laying off thousands and relinquishing competitiveness in military aerospace.¹⁸⁵

The analysis of the feasibility Study showed that "differences over requirements were less important than industrial and political factors."¹⁸⁶

Fighter aircraft make up the largest portion of the aerospace market. The EFA, is a combat aircraft and therefore belongs in this category. Development of the EFA and its weapons systems to meet the world market requirements "provide a major technological and competitive edge to the whole of the British Aerospace industry..¹⁸⁷

¹⁸⁴ HCDC Fifth Report, p. viii.

¹⁸⁵ Steven Greenhouse, "European Fighter: Cost vs. Pride," *The New York Times*, February 21, 1989, p. D1 Col. 3.

¹⁸⁶ Taylor, p. 7.

¹⁸⁷ HCDC Fifth Report, p. 61.

When asked about the implications of cancellation or significant curtailment of the programme, British Aerospace has said it would be difficult to estimate, but "presumably it [could] be deduced from the above [paragraphs]."¹⁸⁸

Cancellation would have a profound effect on the future nature and structure of the European equipment industry, "such is the commercial and technical importance of the EFA programme."¹⁸⁹

Q9 Will a decision be made within a specified time-frame to avoid an economic downturn?

As the projected costs rise on the EFA, the probability of nations pulling out is foremost in the minds of decision makers involved in the programme. There is no denying that the economic stakes are great. "What is driving EFA now is that none of [the participants] at this point can afford to take the political responsibility for pulling out, and that the economic stakes for Europe are simply too great."¹⁹⁰

Political considerations may be changing, but respect to its aerospace industry, however, the United Kingdom seems

¹⁸⁸ *Ibid.*

¹⁸⁹ Ivan Yates, "Evolution of the New European Fighter A British Industrial Perspective," British Aerospace publication, 1988, p. 42.

¹⁹⁰ Krause, p. 17.

prepared, if need be, "to develop without partners--mainly due to industrial-political considerations."¹⁹¹

C. SOCIO-POLITICAL FACTORS

Q10 Is the defence industry of the United Kingdom guided by government guidelines?

As seen in the previous chapter, the government has set policy with regards to creating a commercial approach to defence procurement. The Value for Money program broke long established practices to create a "new customer-supplier relationship based on a strategy of greater commercial awareness."¹⁹² The increase in commercial awareness is designed to improve competition among defence contractors by making them recognize that the government will no longer accept the first proposals offered unless it is clear that the best terms have been worked out.

Value for Money also places greater emphasis on best and final offers by resisting cost-plus contracting. The Ministry of Defence has applied the principles in EFA decision-making. "Cabinet decisions with regard to Fighter Aircraft 90 with all their consequences by far extend the meeting of purely military demands."¹⁹³

¹⁹¹ "Fighter Aircraft 90," translated from *Wehrtechnik*, Vol. 16 No. 5, May 1984, p. 4.

¹⁹² HCDe Fifth Report, p. xxiv.

¹⁹³ "Fighter Aircraft...", p. 4.

Q11 Will the Prime Minister become involved?

Information regarding Margaret Thatcher's role in the European Fighter Aircraft project is unavailable. UK industry maintains their concern, however, that Her Majesty's Government "in its anxiety to foster collaboration, may not have pressed the British national interest as strongly as it might,..."¹⁹⁴

As decisions become more critical, the extent of Prime Minister Thatcher's involvement would, had she been in power, followed suit with past issues, and become deeper. It is not known if Prime Minister Major will ensure that the EFA continues to fly because of its importance to the future of British Aerospace.

Q12 Is detente an issue?

Detente is very much an issue in the EFA programme and might well contribute to its demise. A brokerage firm report of January 1990 states that the multinational EFA program is in serious trouble, mainly because certain NATO members are scaling back defence spending commitments.¹⁹⁵

The future of the European Fighter Aircraft programme has been complicated by the changes in Eastern Europe. The diminished threat perceptions coupled with CFE cuts will play a role in the EFA's future.

¹⁹⁴ HCDC Fifth Report, p. xxv.

¹⁹⁵ Witt, p. 41.

The EFA programme is being attacked for its cost and is considered by many to be "an excessive investment to make at a time when the Soviet threat is receding."¹⁹⁶ On the other hand, with the Soviet threat diminishing, the EFA looks better since stealth technology is no longer necessary. There is also export competition to consider. The EFA is not dead in spite of the Cold War's end.

There is no question that detente is a major factor in the EFA's future since the possibility of "continued detente could further erode the EFA partners' readiness to spend large sums on their own defense."¹⁹⁷ If Britain's partners pull out, the United Kingdom will have to decide whether to continue. If so, the European Fighter Aircraft could become the British Fighter Aircraft (BFA).

Q13 How important are NATO/US relations in determining the outcome?

The European Fighter Aircraft is a sore spot in US relations with the United Kingdom and the other participating NATO members. The Americans assert that EFA is "a case of national pride clashing with economic sense."¹⁹⁸

The United States government has been unsuccessful in lobbying for participation in the EFA program and believes

¹⁹⁶ De Briganti, "Beleaguered . . .," p. 46.

¹⁹⁷ Taylor, p. 34.

¹⁹⁸ Greenhouse, p. D-1.

that economic competition drove the Europeans decision to exclude US firms. The idea that national economic concerns prevailed is thought to be a "disturbing trend throughout the alliance."¹⁹⁹

The United States knew from the beginning that US industries might be excluded from the project. "By the summer of 1987 it seemed unlikely that the American efforts would succeed in bringing about EFA's cancellation."²⁰⁰

The Europeans' decision to develop and produce the fighter aircraft without US participation was undoubtedly made after considerable thought. Available information indicates that despite the possibility of alienating the US, Europeans felt obligated, for economic-industrial reasons, to "go it alone."

D. MILITARY FACTORS

Q14 What is the equipment to be used for?

The purpose of the European Fighter Aircraft is two-fold. The first aim is to give NATO air forces a successor aircraft, primarily configured for air defence, with a secondary

¹⁹⁹ Tim Carrington, "Europe's Plan to Build New Fighter Plane Puts Western Firms on Cutthroat Course," *The Wall Street Journal*, May 23, 1988, p. 16 Col. 2.

²⁰⁰ Taylor, p. 14.

capability for air-to-surface missions.²⁰¹ Reportedly, the UK's partners "only want an agile fighter."²⁰²

As the most important international collaborative programme of the 1990s, EFA is also being developed to "spearhead the technological and political-industrial defence partnerships in Europe."²⁰³ The aim of EFA is to be instrumental in the creation of a European aerospace industry, arguably the most important of the two-fold purpose for the aircraft.

From the standpoint of industrial importance, the EFA's production is a critical factor for creating an affordable technology base to meet a perceived military threat.²⁰⁴

Q15 Does military strategy (keeping control of essential defence requirements) preclude US/EUROPEAN collaboration?

No. As with the Westland Case, the United Kingdom's industrial capability is threatened if the EFA fails. The US and other NATO allies have traditionally had similar defence needs concerning Europe. In addition, the EFA is to be used by NATO forces.

²⁰¹ JANE's, p. 121.

²⁰² Bittleston, p. 60.

²⁰³ Yates, p. 6.

²⁰⁴ Ibid.

The United Kingdom had no need to keep control of defence requirements other than from the standpoint of her defence industry.

E. SUMMARY OF CASE

The status of the European Fighter Aircraft, as we have seen, is far from secure, and is ongoing. Europe's defence industry, particularly the United Kingdom's, has a lot to lose if the project goes bust. Table 4.3 indicates the value of each explanatory factor in relation to the decisions thus far made.

TABLE 4.3: RATING THE VARIABLES

Explanatory Variable	Important	Marginal	Not Important
Q5 Industry(Tech)	X		
Q6 Exports	X		
Q7 Tech Transfer	X		
Q8 Industry(Econ)	X		
Q9 Economic Ruin		X	
Q10 Govt policy	X		
Q11 PM involved		X	
Q12 Detente	X		
Q13 NATO/US Rels.		X	
Q14 Equipment	X		
Q15 Mil. Strategy			X

V. CONCLUSION

A. SUMMARY OF CASES

Three cases were studied which involved three different outcomes for the government of the United Kingdom. In the Westland Case, the U.S. rescue bid was chosen instead of the European offer. In the NFR-90 case, the United Kingdom started the project with European allies and the United States in 1983. By the time of her withdrawal in September 1989, the United Kingdom had decided on a national solution. In the third and final case, the European Fighter Aircraft, the United Kingdom is in partnership with three European allies, having excluded the United States in the project's early stages. If the Germans pull-out of the project, the United Kingdom will most likely opt for a national solution. What, then, did these case studies show concerning weapon procurement in the United Kingdom and what can be concluded about the future of defence procurement in the United Kingdom?

Table 5.1 combines the variable ratings from the previous case summaries. It points out those factors that were important in each case and those few key factors that were of the same value (Important, Marginal or Not Important) in all three cases.

TABLE 5.1: RATING SUMMARY

Explanatory Variable	Important	Marginal	Not Important
Q5 Industry-Tech	Westland NFR-90 EFA		
G6 Exports	Westland EFA		NFR-90
G7 Tech Transfer	Westland NFR-90 EFA		
Q8 Industry-Econ	Westland EFA	NFR-90	
Q9 Economic Ruin	Westland NFR-90	EFA	
Q10 Govt policy	EFA	Westland NFR-90	
Q11 PM Involved	Westland	NFR-90 EFA	
Q12 Detente	NFR-90 EFA		
Q13 NATO/US Rels.		Westland NFR-90 EFA	
Q14 Equipment	NFR-90 EFA	Westland	
Q15 Mil Strategy		NFR-90	Westland EFA

The factors that were the same in each case help in generalizing how the decisions will be made in the future, while other reasons need to be found for the multitude of different factors that played a role in the United Kingdom's defence decision-making process.

Table 5.1 shows that three variables had the same impact in all three cases. First, in terms of technological self-

sufficiency, the government of the United Kingdom's decisions weighed heavily on making choices that would/will ensure success for the nation's defence industrial base. In the Westland case, the United Kingdom's chances of remaining self-sufficient in helicopter manufacturing would most probably have declined or disappeared had the company not been financially rescued. Westland continues to produce helicopters, but certainly not as numerous as in previous times. However, without the instant monetary infusion from United Technologies/Sikorsky in 1986 it seems likely that Westland's future would have been anything but guaranteed. Likewise, the United Kingdom's shipbuilding industry is shrinking, so the NFR-90 programme offered a chance to increase business. However, the United Kingdom was able to pull out of the project without placing the defence industrial base in real jeopardy. The United Kingdom is self-sufficient enough in industrial terms to continue the European Fighter Aircraft alone, if necessary. In fact, British Aerospace needs the contract work. As the United Kingdom's sole airframe producer, this technology must remain competitive.

In the three cases presented, the United Kingdom made decisions based on saving, improving or maintaining a defence industrial base with an emphasis on technological advances. As Europe progresses toward its single integrated market and competition opens up, this factor will play an even more prominent role in the government's decision-making.

Technology, or the acquisition of technology through transfer, is another factor of major importance to the United Kingdom. Government decisions were made in all three cases which meant gains in technology for the short term--immediately or within a few years (Westland, NFR-90) or kept the United Kingdom and Europe's competitive edge by excluding the United States as in the radar technology of the European Fighter Aircraft. If the United Kingdom needed or desired exportation of equipment, US export control policy was a significant factor in the United Kingdom's decision not to include US parts or participation.

A third variable, NATO/US relations and its impact on the outcome, had a marginal value in each case. The United Kingdom did not seriously consider her allies when making key decisions in weapon procurement. All things being equal, the United Kingdom would choose the partner(s) she stood to gain the most from technologically and economically. The United Kingdom's government showed more concern for its industry than the larger scope of foreign relations.

The remaining eight variables show that in two out of three cases, the variables had the same value, although those values differed depending on the variable in question. For example, Detente was an "Important" factor in both the NFR-90 and EFA cases, while of "No Importance" in the Westland case. The United Kingdom could afford to ignore security concerns. Military Strategy was of "Marginal" value in the NFR-90 case,

while of "No Importance" to Westland and EFA. What this means for defence procurement is uncertain. Perhaps, given the changing nature of the international environment--i.e. dominated by detente, it means that the government of the United Kingdom has a series of considerations to contemplate in all defence decision-making programmes. No longer will all of the current weapons and missions remain necessary. Already we have witnessed a reduction in the British Army on the Rhine and fewer frigate purchases.

Another interesting aspect that Table 5.1 points out is that of the remaining eleven variables that did not have the same value, there were no variables that had a different value per case. As an example, take the issue of exports. In the Westland and EFA cases, exports were important, while of no importance in the NFR-90 case. There were no variables in which the value was Important in a case, Marginal in a case, and Not Important in a case. Further research is necessary to determine if there are other cases in which the variables produce a unique value, rather than the two of three similar values found in each of my variables. In this manner, if too many variables produce a different value in each case, it could become necessary to change the variables for ease in making generalizations.

The three cases studied spanned the 1980s. Further research could determine if similar results are found in cases that were concluded in the 1960s and 1970s or if results can

be duplicated in future British defence procurement choices. Certainly, the state of the economy will play a role in defence procurement. Before listing recommendations for further research, it is necessary to address the limitations of the research.

B. LIMITATIONS

As stated in the introduction, the independent variables chosen were those that, at the time of the research design, seemed satisfactory as questions that would help to explain the outcomes of the three cases. Four areas were chosen in which to utilize the variables, areas that were believed of importance in determining how the British government made defence procurement decisions. Those areas were: 1) technological, 2) economical, 3) socio-political and 4) military. All were useful and should be used for further research.

Within each area, different variables could have been used. It seems desirable to make changes based on the limitations that were encountered in determining the impact of technology transfer on the outcome of the cases. More questions regarding US trade/export policy could deepen the understanding of this barrier. In addition, in the area of economics, it was difficult to gauge the impact of major projects on the defence budget as a whole, given that projects typically span many years, impacting jobs and industries as

well as taking up their share of numerous defence budgets. Question 9 which dealt with economic downturn was perhaps too difficult a term to be realistically measured. In future cases, it is recommended that economic hardship be evaluated in terms of lost labor i.e. man hours and jobs. On any given project, numerous companies are involved in the work. Consequently, a breakdown of the companies' finances and share of the project could help to clarify the extent of economic hardship.

The questions that were more subjective in nature within the socio-political area, were in many aspects easier to answer. In the final area of military variables, factors need to be examined more rigorously. Since weapons are acquired by the armed services, it is critical to understand how much impact each service has in requesting and designing equipment. In addition, Question 15 regarding the impact of military strategy on the decision, was the weakest because it suffered from a poor definition. Distinguishing between military strategy and military policy as important variables would be beneficial to further research.

By far the area that was most limiting to the research was the United Kingdom's government i.e.-- how British politicians wield power, who holds that power, and which departments set policy. Clearly, the United Kingdom's parliamentary system differs significantly from the US system of government. As a result, determining who controls the defence budget and

acquisition process is critical. As was evident in the NFR-90 case, the Treasury wielded its substantial power and the project was cancelled.

Government decision-making is further complicated by the United Kingdom's Official Secrets Act which restricts certain governmental information from public knowledge and access for thirty years. When applicable, this limitation should be noted at the outset in future research designs. In addition to asking to what extent the Prime Minister was involved, future research would be enhanced by including to what extent other departments in the government were involved. Examples should include the armed services, treasury and cabinet members. Perhaps identifying the different political parties and their platforms would also prove beneficial.

Finally, this writer was limited by inexperience in trying to obtain British government documents. While it is true that I was able to acquire many key documents eventually, a lesson in how Stanford University's Green Library files such documents would have improved my ability to obtain these items more efficiently.

C. VARIABLES FOR OTHER CASES

There is no doubt that a multitude of variables could be utilized in an attempt to further explore weapons procurement and government decision-making in the United Kingdom. This

section looks briefly at additional areas/concerns for inclusion in future research.

As indicated in the previous section, more work needs to be done regarding the United Kingdom's government structure. No matter which country the United Kingdom chooses to cooperate with on future weapon procurement projects, it is vital to know how the British government functions i.e.--who holds the power in any given situation. When, for example, is a vote by parliament or the citizens of the United Kingdom required? What is the difference between the political parties vis-a-vis defence? Does it matter?

Another area of study should concern itself with the budgetary process. How is the defence budget prepared? Is it difficult or easy to adjust/alter? Who has the final approval? Since major weapon acquisition is presumably a lengthy process, how the British go about this process is necessary information to know. If, for example, the budget for defence is developed annually, how much in terms of percent, is set aside for future projects? R&D?

The area of the United Kingdom's defence industrial base and how this might intermingle with a European defence industrial base, is an issue that will deserve much attention as the single, integrated market comes into focus in 1992. A study should be done which examines the differences between groups such as the NATO Industrial Advisory Group (NIAG), the Western European Union (WEU), the National Armaments Directors

(NAD) and other groups or organizations which could impact the European defence industrial base and therefore future US joint ventures. Particular emphasis should be placed on technology transfer controls, the convergence of military and civilian technology, the impact of EC92 on transatlantic business and the fiscal pressure on defence budgets.

In the past, contradiction between words and deeds occurred regarding allied technology cooperation. By researching the pattern of successes and failures in weapon procurement cooperative ventures between the United Kingdom, the United States and Europe, one can more readily predict what the future holds. The following section suggests case studies which need further examination to unlock the key to successful international collaborative programmes.

Before turning to those cases, it is necessary to comment on the constant variables, those stated in the initial research design as factors with a minimal role to the outcome of each case. Of the seven constants given, one has changed due to an unexpected switch in the Prime Minister of the United Kingdom effective November 27, 1990. Prime Minister Thatcher resigned and was replaced by John Major, a Conservative who previously held the job of Chancellor of the Exchequer. He is the youngest man ever to hold the position of Prime Minister and is a protege of Margaret Thatcher. In future cases, this constant must become an independent variable. Likewise, the Soviet Union and the United States

will not always be governed by Mikhail Gorbachev and George Bush. Their successors will need to be examined, either as a constant or independent variable since the political structure of these societies has an impact on defence procurement.

D. CASES FOR FURTHER RESEARCH

One US/UK collaborative program which was recently cancelled that was brought to my attention by Mr. Lester Taylor of Naval Surface Warfare Center was the Advanced Sea Mine (ASM).²⁰⁵ It was worked on for nearly two years and close to production when the British withdrew.²⁰⁶ This case is made even more interesting by a sister program still being worked on by both teams stationed in the United States. (The other team was headquartered in England.) Research needs to be focused on the technology involved and the organizational set up in order to determine why the program in the United Kingdom was cancelled while a similar program is on-going in the United States.

The United Kingdom has had extensive experience with collaborative projects, dating back to the 1940s when British

²⁰⁵ Mr. Taylor and I had a conversation regarding his work on this joint Anglo-American program while he was in Monterey to attend a conference at the Naval Postgraduate School.

²⁰⁶ See F. Fineran, W. King, T. Ryczek, D. Ference and L. Taylor's "Advanced Sea Mine Final Report," Naval Surface Warfare Center, Dahlgren, Virginia, 1 June 1989 for more information.

scientists began work on the Manhattan project with US partners, before the US government decided to withhold information from the British. Study in this case could bring to light UK/US nuclear relations and how they have progressed to the Trident D-5 programme of today.

Other projects that the United Kingdom has been a partner to include: the Concorde, the Airbus and the Jaguar and Tornado strike fighters. The Tornado programme was successful and some of the lessons learned from it have been used in the European Fighter Aircraft project.

The United Kingdom is currently involved in a joint project with Italy, the Anglo-Italian EH-101 helicopter program, a program which one critic believes the British government is unlikely to withdraw from.²⁰⁷ If this turns out to be the case, one has to ask why the program was successful. This program deserves further attention.

Undoubtedly there are numerous examples of successful and unsuccessful projects in which the United Kingdom bilaterally or multilaterally cooperated with US and/or European partners. Research needs to be carried on using the same variables chosen in this thesis to prove or disprove my conclusions which are featured below.

²⁰⁷

Friedman, p. 172.

E. FORECASTING THE FUTURE

Despite Western perceptions of a greatly diminished Soviet threat, development of defence technology will continue. Factors such as the uncertainty over the future evolution of the Soviet Union, the spread of high-technology throughout the Third World and concerns over national technological competitiveness will play a part in collaboration and cooperation among the allies. This does not mean joint projects will flourish. Each of the NATO nations is concerned with maintaining its perceived technological advantages and levels of employment.²⁰⁸

The desire for national autonomy with respect to the development and production of major weapon systems has been a sensitive issue as this thesis has shown. However, "the UK will continue to review its participation in international cooperative arms programmes."²⁰⁹

The United Kingdom, like other NATO countries, is being forced to cut back on defence spending. Coupled with a decline in the threat and domestic economic burdens, the UK is faced with political problems. After eleven years in power, Prime Minister Thatcher was challenged by her ex-Defence Minister,

²⁰⁸ Jean-Francois Delpech, "Allied Technology Cooperation Falter," *Defense News*, Monday October 22, 1990, p. 19.

²⁰⁹ Barbara Starr, "UK denies major policy shift...", *Jane's Defence Weekly*, 21 October 1989, p. 883.

Michael Heseltine: and as a result of these political problems, "wider political and economic considerations will thus enter into major decisions about the buying of defence equipment; whether to buy from the UK or from overseas;..."²¹⁰

As the British government pays closer attention to political considerations, perhaps large collaborative programmes will have more chances of success if the programmes are constituted to achieve "political and economic objectives rather than specific military ones only."²¹¹

There can be no question that the United Kingdom's Ministry of Defence plays a big role in major weapon procurement. Consequently, the "Ministry of Defence has signified a greater willingness to purchase equipment from overseas sources provided that cost, performance and timescale advantages outweigh benefits of a domestic purchase."²¹²

The Ministry of Defence's future is going to be tied up with government decisions since "government decisions affecting defence are material to the future policy and expenditure of the M o D."²¹³ It is therefore imperative that further research makes clear the structure of the United Kingdom's government.

²¹⁰ HCDC Fifth Report, p. v.

²¹¹ B.L. Harris, p. 2.

²¹² HCDC Fifth Report, p. xxv.

²¹³ HCDC Fourth Report, p. vi.

The future success of joint collaboration on major weapons procurement depends on many factors, including the role of technology, economics, industry and politics. Technology was the most important variable in the three cases studied within this thesis and will continue to be of major importance in future procurement decision-making.

The United Kingdom's defence industry faces a tough challenge in the future. The defence industrial base must remain competitive whether this involves more collaboration with the United States or Europe. The British government, no matter which political party runs it, will make decisions based on keeping the defence industry afloat. If Michael Heseltine, who is pro-European, as witnessed in the Westland Affair, had won the race for Prime Minister role in the United Kingdom in the general election that must be held before mid 1992, we could have expected to see less and less cooperation with the United States.

Prime Minister Major's policies are relatively unknown. However, he does stand for a strong defence of British interests in the European community and reportedly is likely to continue Thatcher's policies--foreign, domestic, and economic.²¹⁴ Whether he will favor the Continent to the United States in matters of defence can only be speculated

²¹⁴ Craig R. Whitney, "Finance Official Beats 2 Rivals in Tory Vote," *The New York Times*, 28 November 1990, p. A1, Col. 5.

about. He has been labelled as pro-European and a strong supporter of the special relationship across the Atlantic.

Nothing is certain as the future looms large in the face of many unknowns. However, if for no other reason than providing military products and technology at a price that governments can afford, defence industries on both sides of the Atlantic should continue to cooperate.²¹⁵

²¹⁵

Krause, p. 17.

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